

GRM CLAMPS & Accessories

• *Best Price, Best Design, Best Delivery*

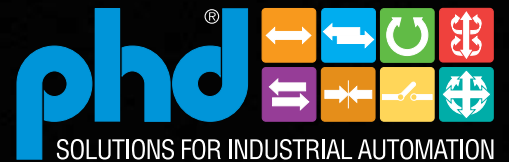


**ISO-9001
CERTIFIED**
Quality Management
System Certified

CLAMP10



PHD is a member of the
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SOLUTIONS FOR INDUSTRIAL AUTOMATION

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			lb	N		
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C & D page 8	 Single Chisel  Double Chisel	2	225	1000	<ul style="list-style-type: none"> Compact lower jaw Blank loading Sheet separation applications 	<ul style="list-style-type: none"> Compact design
H & J page 8	 Single Shovel  Double Shovel	2 4	225 500	1000 2224	<ul style="list-style-type: none"> Compact lower jaw Blank loading Sheet separation applications 	<ul style="list-style-type: none"> Proven design for longevity Modular jaws - easily changed
L & M page 26	 Single Flat Shovel  Double Flat Shovel	2	225	1000	<ul style="list-style-type: none"> Compact lower jaw No upper jaw swing through 	<ul style="list-style-type: none"> Modular tips - easily changed Non-adjustable color coded tips
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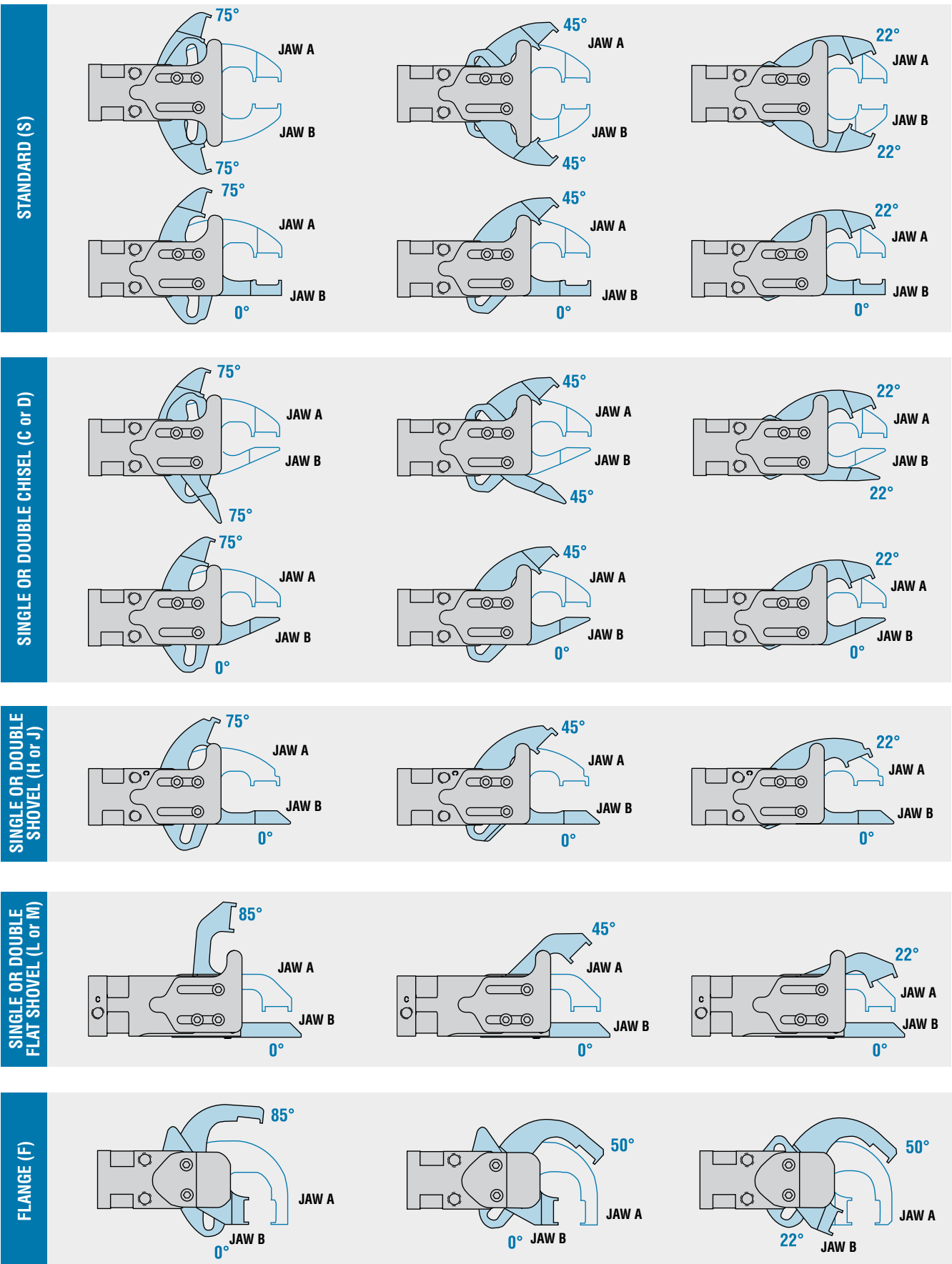
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Clamp Solutions

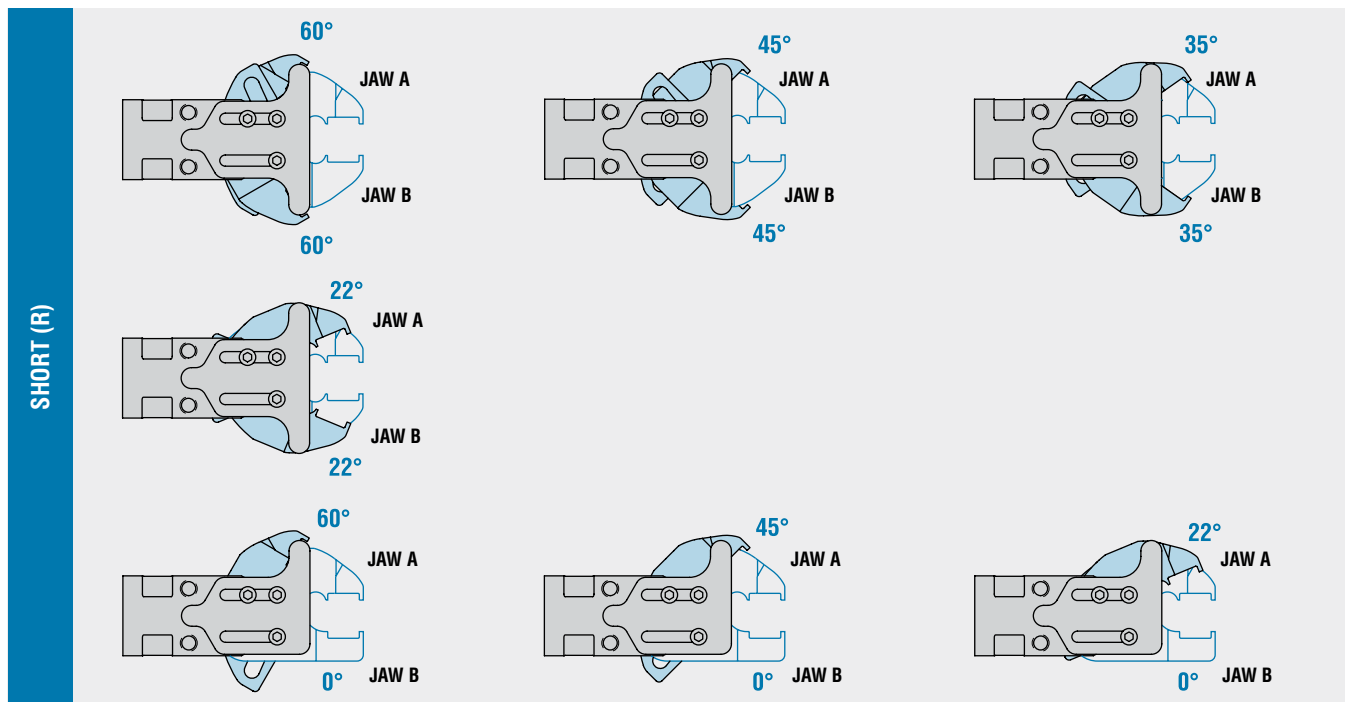
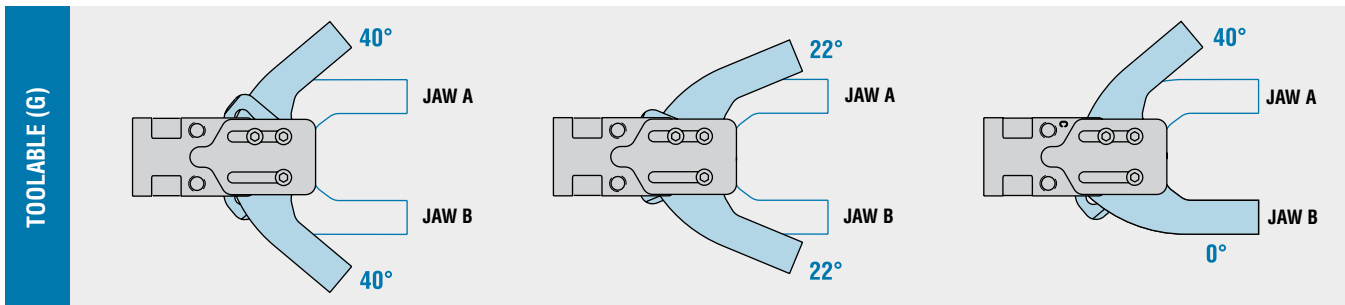
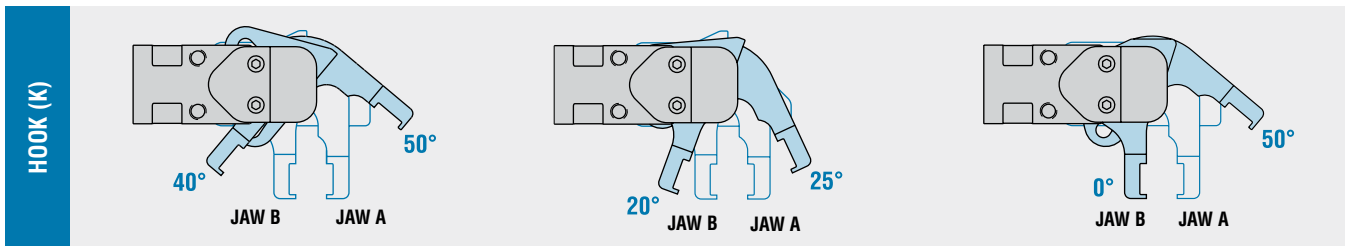
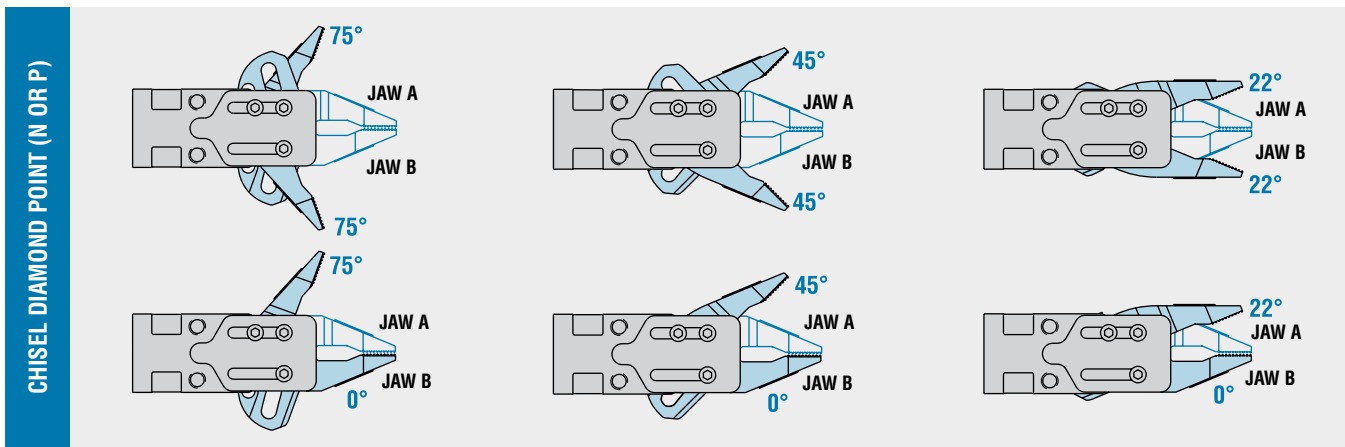
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UNIT VIEWS: SIZE 2 - JAW STYLES S, C, D, H, J, L, M, & F

GRM
Clamps



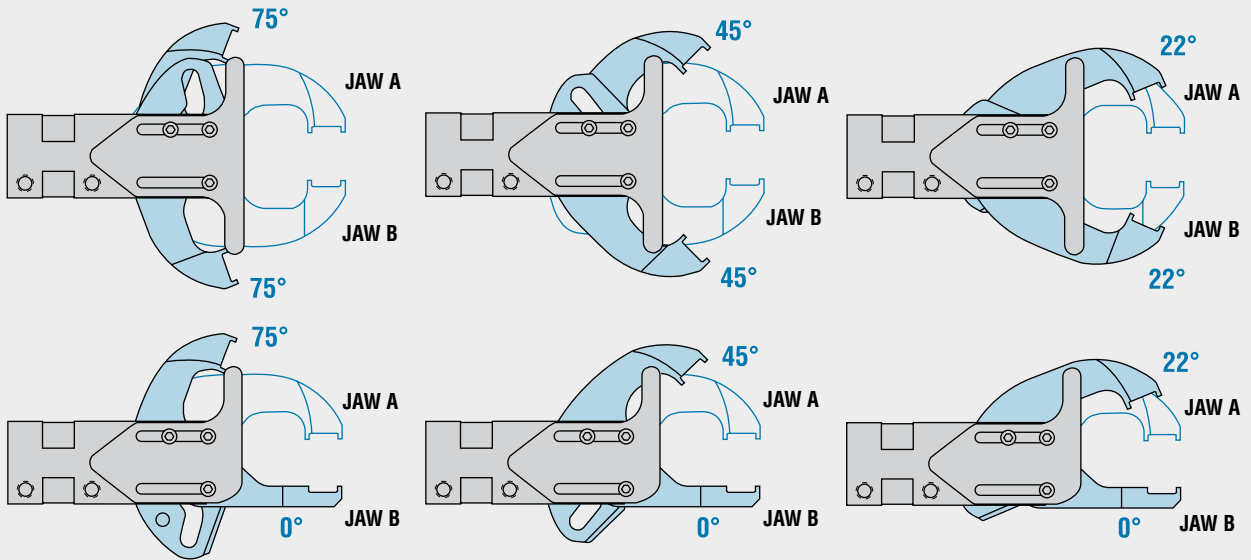
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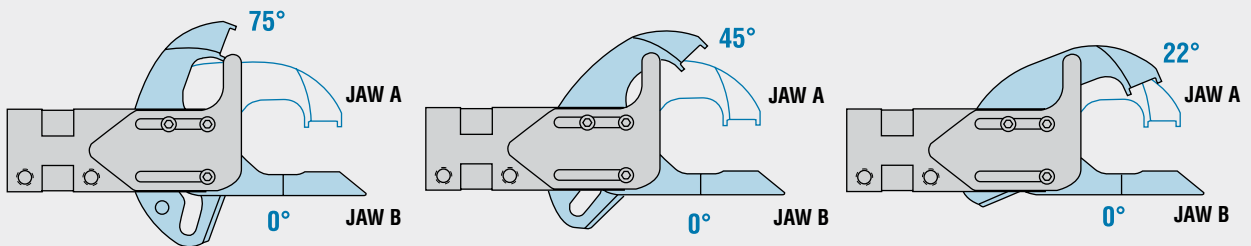
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GRM
Clamps

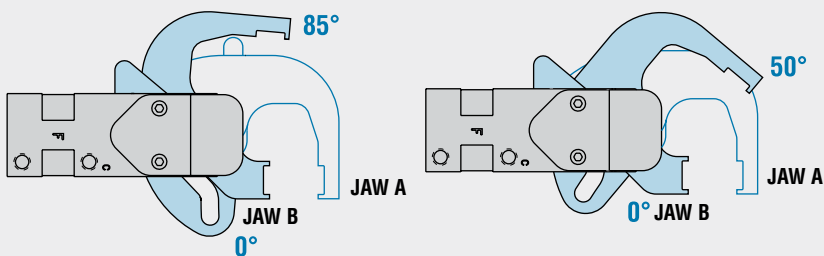
STANDARD (S)



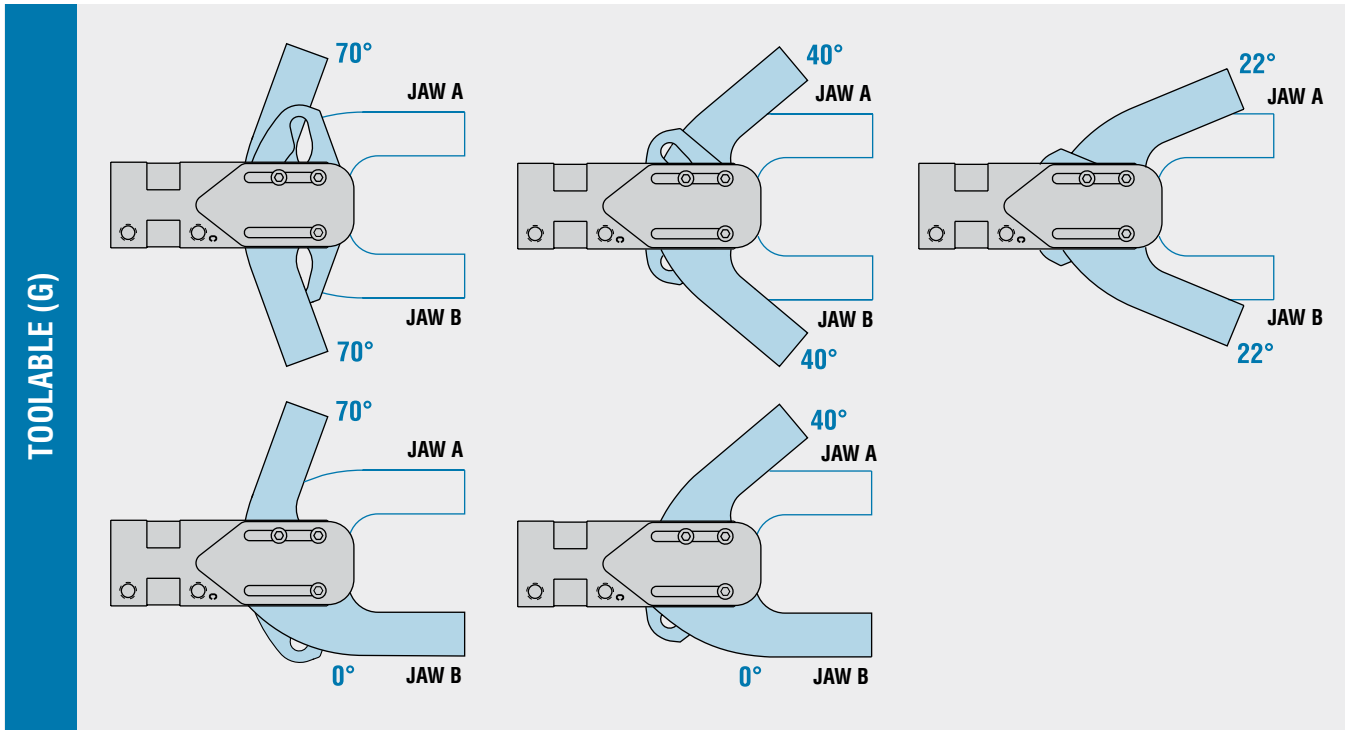
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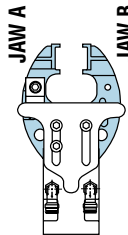


ORDERING DATA: GRM CLAMP JAW STYLES "S, C, D, H, & J"

Standard,
Chisel &
Shovel Jaw

TO ORDER SPECIFY:

Size, Mounting, Jaw Style Option, Design No., Jaw Opening (A & B), Jaw Tip Option (A & B), and Fitting Option if desired.



JAW STYLE OPTION	
S - Standard Jaw (to accept Tip Options)	(See Notes 3 & 4)
C - Single Chisel Jaw	
D - Double Chisel Jaw	
H - Single Shovel Jaw	
J - Double Shovel Jaw	

UNIT SIZE	
2 - 32 mm Short	(See Note 1)
4 - 40 mm Long	

JAW OPENING - JAW A	
00 - 0° Opening	(See Note 1)
22 - 22-1/2° Opening	
45 - 45° Opening	
75 - 75° Opening	

JAW TIP OPTIONS - JAW A			
Material	Thickness		
	0 to 1.50 mm	3 mm	4 mm
Color	Black	Silver	Gold
No tip	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCR
Double Cone Point	DCB	DCS	DCR
Single Diamond Point	SDB	SDS	SDR
Double Diamond Point	DCB	DCS	DCR
Single Urethane Pad	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB

(See Notes 6, 7, & 8)

GRM

2

S

2

S

75

DDB

LAA

MOUNTING	
T - Rear Mounting Threads (Standard)	
C - 90° Spherical Mounting Bracket	
R - Non-Spherical Mounting Bracket	
S - Spherical Mounting Bracket	
W - Oversize Spherical Mounting Bracket	
A - Rear Spherical Mounting Bracket	
B - Oversize Rear Spherical Mtg Bracket	
P - Rear Mounting Plate	

DESIGN NO.	
2 - Imperial	(See Note 2)
6 - Metric	

JAW OPENING - JAW B	
00 - 0° Opening	(See Note 1)
22 - 22-1/2° Opening	
45 - 45° Opening	
75 - 75° Opening	

JAW TIP OPTIONS - JAW B			
Color	Material Thickness		
	0 to 1.50 mm	3 mm	4 mm
No tip	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCR
Double Cone Point	DCB	DCS	DCR
Single Diamond Point	SDB	SDS	SDR
Double Diamond Point	DCB	DCS	DCR
Single Urethane Pad	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB

(See Notes 6, 7, & 8)

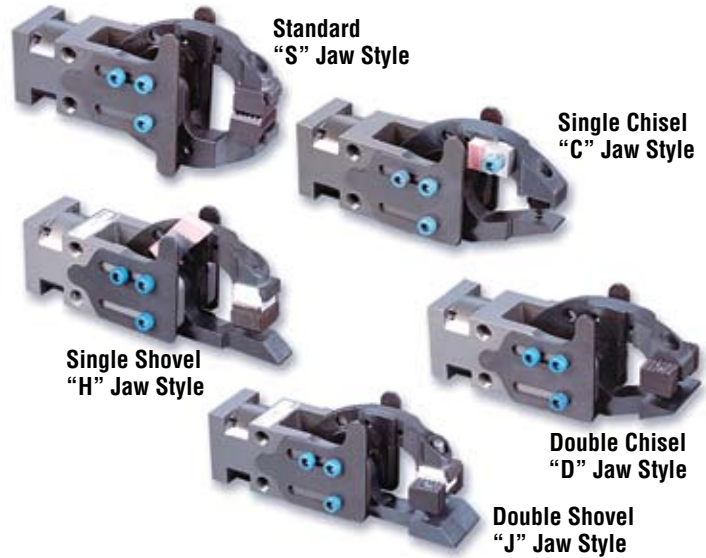
PORT FITTINGS	
BLANK - No Fitting	
LAA - 90° Swivel Elbow, Metal	
LBB - 90° Swivel Elbow, Plastic	
LCC - 90° Swivel Elbow, Metal	
CLOSE	
OPEN	
OPEN	
CLOSE	

NOTES:

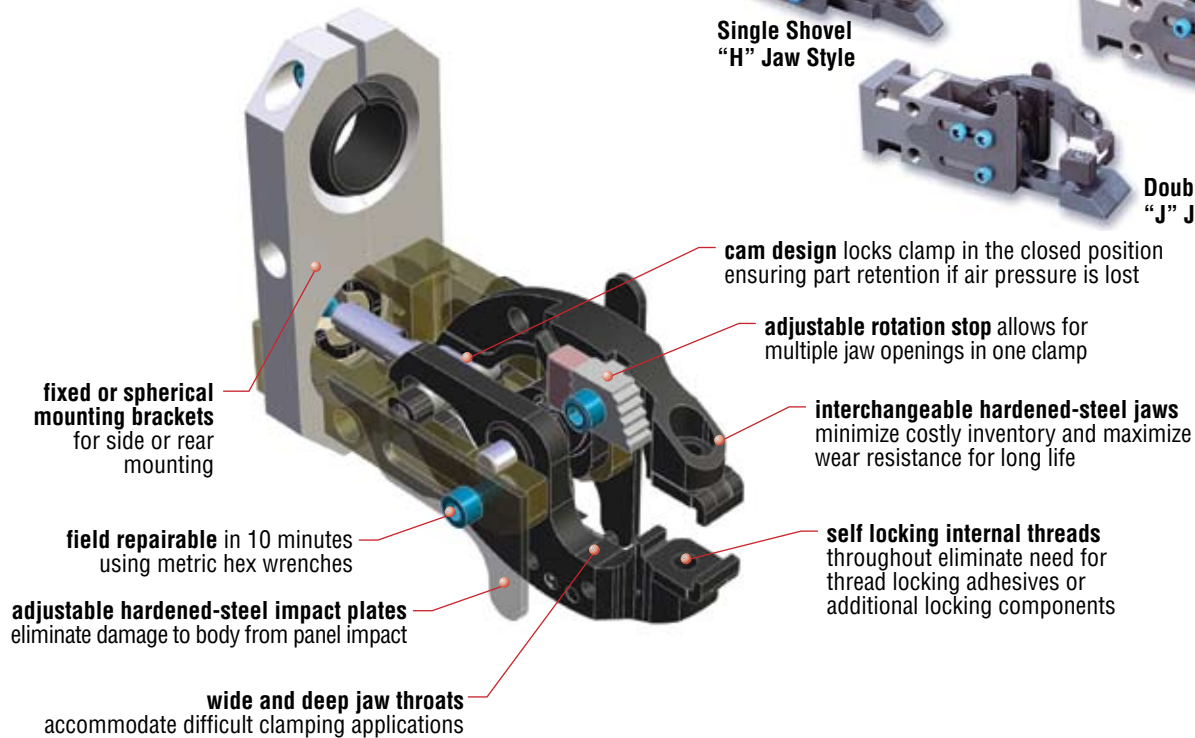
- The 0° jaw rotates open no greater than 3° during the clamp cycle. The 0° jaw returns to 0° position as the opposing jaw reaches the fully open and fully closed position.
- Metric units have metric ports and mounting. Imperial units have imperial ports and mounting.
- C & D jaw styles are available only on GRM size 2.
- H & J jaw styles are available only on the following jaw combinations: 75xxx-00, 45xxx-00, 22xxx-00, 00-75xxx, 00-45xxx, 00-22xxx
- See the Accessories section for non-standard options.
- Cone point against cone point tip combinations are not allowed due to point overlap.
- Red tips are available only on GRM size 2.
- *Material thickness for H and J jaw styles = 4.01 to 4.5 mm.



GREATER CLAMPING FORCES, FLEXIBILITY, DURABILITY, & LOW COST



Standard,
Chisel &
Shovel Jaw



Major Benefits

- Simple design, long life, high clamp force, and fast field maintenance. Ideal for sheet metal handling.
- Available in two sizes, five jaw styles, and nine jaw openings to fit a wide range of clamping applications.
- Compact envelope size and high clamp force. Series GRM size 2 generates up to 225 lb [1000 N] of clamp force. The Series GRM size 4 generates up to 500 lb [2224 N] of clamp force for maximum flexibility and performance.
- Six modular designed jaw tips are offered for maximum clamping performance in a variety of applications.
- The jaws of the Series GRM Clamp lock in the closed position ensuring part retention if air pressure is lost due to line rupture or power loss.
- For additional mounting, jaw, switch, and tip options, see the Series GRM Clamp Accessories section.

Industry Uses

- Sheet metal handling
- Automotive
- Assembly
- Molded carpet manufacturing
- General industrial automation

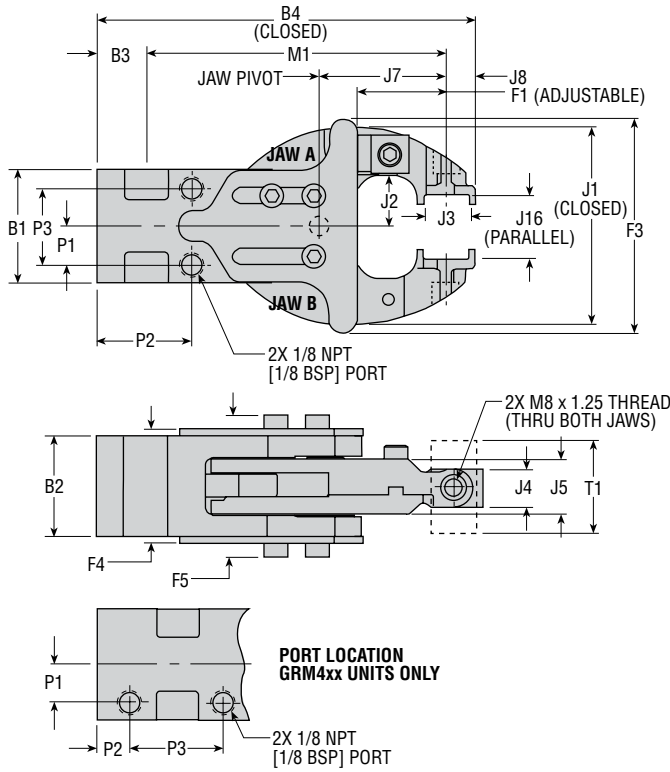


Contact your local distributor for Clamp unit pricing.

DIMENSIONS: STANDARD JAW STYLE "S" - SIZES 2 & 4

GRM2xS-x-xxxxx-xxxxx
GRM4xS-x-xxxxx-xxxxx

Standard Jaw



LETTER DIM	MODEL NUMBER			
	GRM2xS		GRM4xS	
	in	mm	in	mm
B1	1.910	48.5	2.176	55.3
B2	1.654	42.0	1.980	50.3
B3	.827	21.0	1.338	34.0
B4 (CLOSED)	6.437	163.5	8.799	223.5
F1 MAX	1.496	38.0	2.126	54.0
F1 MIN	.985	25.0	1.286	32.7
F3	3.602	91.5	5.120	130.0
F4	1.864	47.3	2.190	55.6
F5	2.336	59.3	2.662	67.6
J1 (CLOSED)	3.314	84.2	4.724	120.0
J2 (CLOSED)	.866	22.0	1.360	34.5
J3*	.755	19.18	.755	19.18
J4*	.630	16.00	.785	19.94
J5	.906	23.0	1.136	28.9
J7	2.146	54.5	2.815	71.5
J8	.472	12.0	.492	12.5
J16 (PARALLEL)	1.074	27.3	1.584	40.2
P1	.650	16.5	.700	17.8
P2	1.575	40.0	.452	11.5
P3	1.300	33.0	1.772	45.0
M1	5.138	130.5	6.969	177.0
T1**	1.530	38.9	1.850	47.0

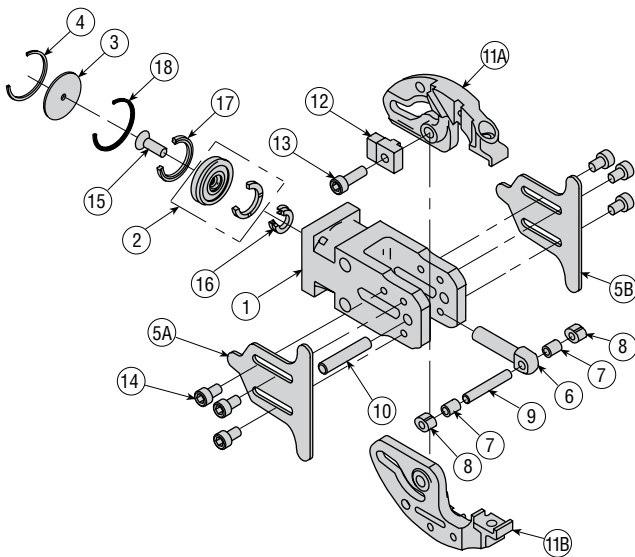
* TOLERANCE FOR J3 & J4 = ± .003 [± .076]

** T1 IS THE LARGEST TIP AVAILABLE.

NOTE:

SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER	
		GRM2xS	GRM4xS
1	BODY ASSEMBLY -imperial	63947-11	64627-11
	-metric	63947-12	64627-12
2	PISTON & SHOCK PAD	63949	64631
3	BORE PLUG	61467	61468
4	RETAINING RING	57618-034	57618-042
5A	IMPACT PLATE	63952-02	64636-02
5B	IMPACT PLATE	63952-02	64636-02
6	ROD/JAW DRIVER	63950	63969
7	JAW BUSHING	62097	62098
8	SLIDER BUSHING	62099-01	62100
9	ROD/JAW DRIVER PIN	52416-009	52416-027
10	PIVOT PIN	62176-01	62177-01
11A	JAW (A)	63954-02	63975-02
11B	JAW (B)	63954-02	63975-02
12	STOP BLOCK	63962-02	64635-02
13	STOP BLOCK SHCS	59104-118	59104-118
14	IMPACT PLATE SHCS	59104-114	59104-114
15	PISTON SFHCS	59104-600	62221-001
16	ROD SEAL	77635-009	78610-006
17	PISTON SEAL	74042-008	74042-009
18	BORE PLUG SEAL	3642-027-1	3642-028-1

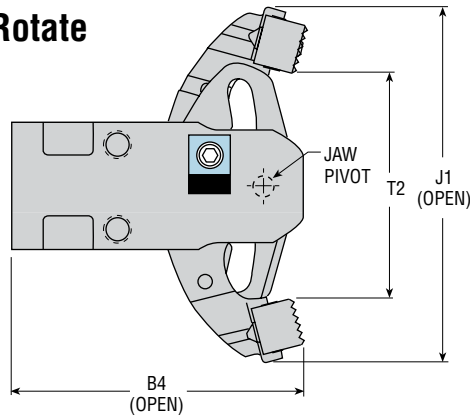
KIT DESCRIPTION	KIT NUMBER	
	GRM2xS	GRM4xS
IMPACT PLATE KIT	63967-02	64638-02
JAW REBUILD KIT	62152-01	62152-02
SEAL KIT	63965-02	63965-04
FASTENER KIT	63966-02	63966-04

NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: STANDARD JAW STYLE "S"

GRM2xS-x-75xxx-75xxx
GRM4xS-x-75xxx-75xxx
 STOP BLOCK NOT REQUIRED

75° Both Jaws Rotate



LETTER DIM	MODEL NUMBER			
	GRM2xS		GRM4xS	
	in	mm	in	mm
B4 (OPEN)	4.437	112.7	6.567	166.8
J1 (OPEN)	5.444	138.3	6.894	175.1
T2	3.453	87.7	4.620	117.3

NOTE:

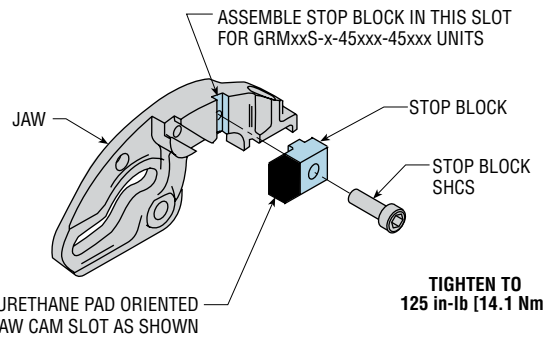
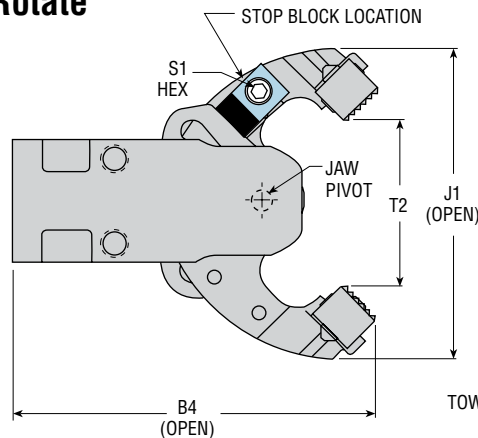
THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.

IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.

Standard Jaw

GRM2xS-x-45xxx-45xxx
GRM4xS-x-45xxx-45xxx
 ONE STOP BLOCK REQUIRED

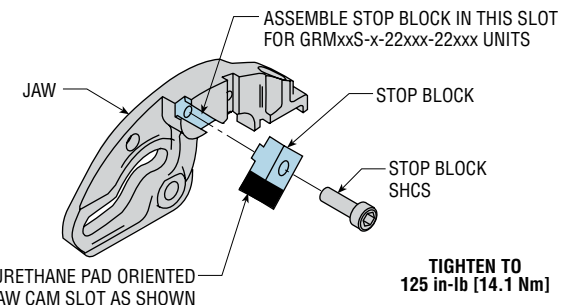
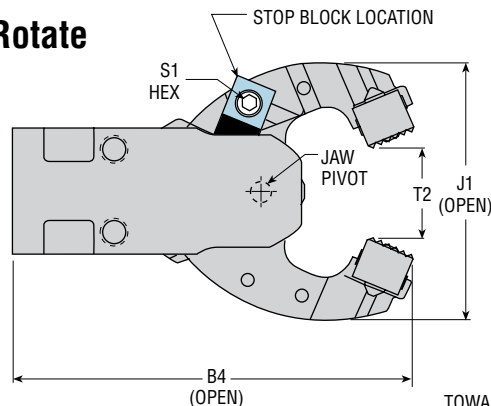
45° Both Jaws Rotate



LETTER DIM	MODEL NUMBER			
	GRM2xS		GRM4xS	
	in	mm	in	mm
B4 (OPEN)	5.545	140.8	7.712	195.9
J1 (OPEN)	4.805	122.0	6.370	161.8
S1	.197	5.0	.197	5.0
T2	2.584	65.6	3.522	89.5

GRM2xS-x-22xxx-22xxx
GRM4xS-x-22xxx-22xxx
 ONE STOP BLOCK REQUIRED

22° Both Jaws Rotate



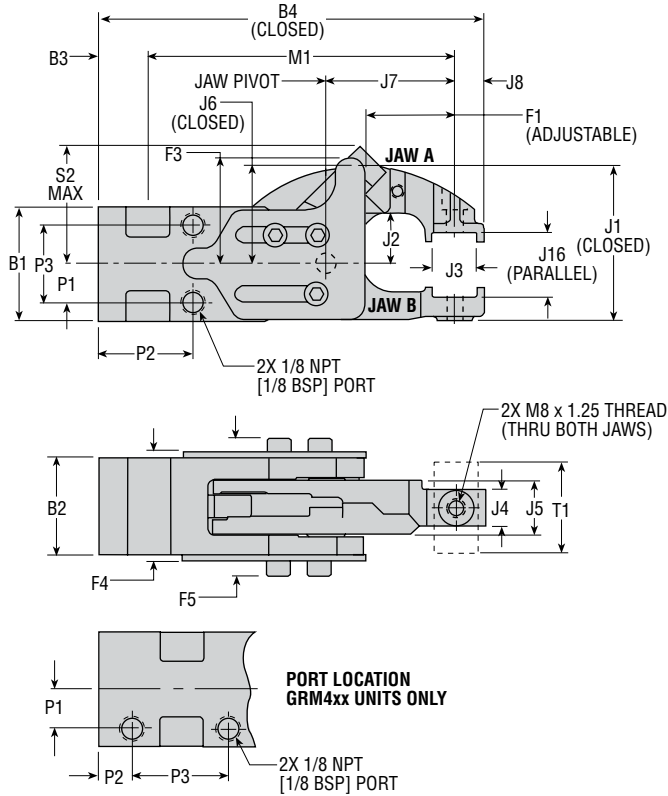
LETTER DIM	MODEL NUMBER			
	GRM2xS		GRM4xS	
	in	mm	in	mm
B4 (OPEN)	6.101	155.0	8.420	213.9
J1 (OPEN)	3.933	99.9	5.615	142.6
S1	.197	5.0	.197	5.0
T2	1.401	35.6	1.904	48.4

All dimensions are reference only unless specifically tolerated.

DIMENSIONS: STANDARD JAW STYLE "S" - SIZES 2 & 4

GRM2xS-x-xxxxx-00xxx
GRM4xS-x-xxxxx-00xxx

Standard Jaw



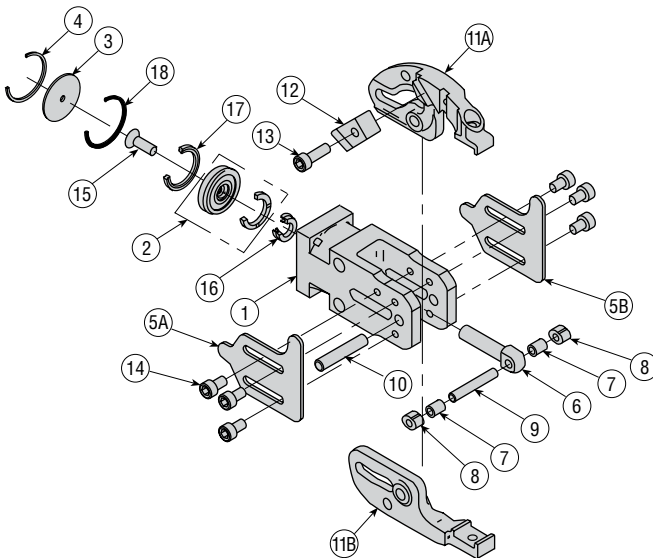
LETTER DIM	MODEL NUMBER			
	GRM2xS		GRM4xS	
	in	mm	in	mm
B1	1.910	48.5	2.176	55.3
B2	1.654	42.0	1.980	50.3
B3	.827	21.0	1.338	34.0
B4 (CLOSED)	6.437	163.5	8.799	223.5
F1 MAX	1.496	38.0	2.126	54.0
F1 MIN	.985	25.0	1.286	32.7
F3	1.801	45.7	2.560	65.0
F4	1.864	47.3	2.190	55.6
F5	2.336	59.3	2.662	67.6
J1 (CLOSED)	2.579	65.5	3.532	89.7
J2 (CLOSED)	.866	22.0	1.360	34.5
J3*	.755	19.18	.755	19.18
J4*	.630	16.00	.785	19.94
J5	.906	23.0	1.136	28.9
J6 (CLOSED)	1.657	42.1	2.362	60.0
J7	2.146	54.5	2.815	71.5
J8	.472	12.0	.492	12.5
J16 (PARALLEL)	1.074	27.3	1.584	40.2
P1	.650	16.5	.388	9.9
P2	1.575	40.0	.452	11.5
P3	1.300	33.0	1.772	45.0
M1	5.138	130.5	6.969	177.0
S2***	2.071	52.6	2.850	72.4
T1**	1.530	38.9	1.850	47.0

* TOLERANCE FOR J3 & J4 = ± .003 [± .076]
** T1 IS THE LARGEST TIP AVAILABLE.
***S2 DIMENSION OCCURS ON 22°-00° ONLY.

NOTES:

- 1) SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.
- 2) THE 0° JAW ROTATES 3° DURING THE CLAMP CYCLE, OPENING THE END OF THE JAW .079 [2.0]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER	
		GRM2xS	GRM4xS
1	BODY ASSEMBLY-imperial -metric	63947-11 63947-12	64627-11 64627-12
2	PISTON & SHOCK PAD	63949	64631
3	BORE PLUG	61467	61468
4	RETAINING RING	57618-034	57618-042
5A	IMPACT PLATE	63952-01	64636-01
5B	IMPACT PLATE	63952-01	64636-01
6	ROD/JAW DRIVER	63950	63969
7	JAW BUSHING	62097	62098
8	SLIDER BUSHING	62099-01	62100
9	ROD/JAW DRIVER PIN	52416-009	52416-027
10	PIVOT PIN	62176-01	62177-01
11A	JAW (A)	63954-02	63975-02
11B	JAW (B)	63953-02	63976-02
12	STOP BLOCK	63962-03	64635-03
13	STOP BLOCK SHCS	59104-118	59104-118
14	IMPACT PLATE SHCS	59104-114	59104-114
15	PISTON SFHCS	59104-600	62221-001
16	ROD SEAL	77635-009	78610-006
17	PISTON SEAL	74042-008	74042-009
18	BORE PLUG SEAL	3642-027-1	3642-028-1

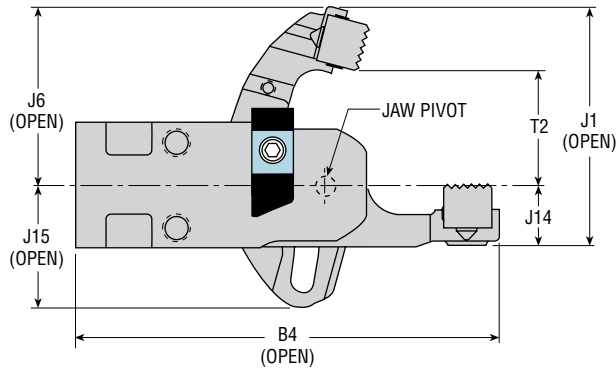
KIT DESCRIPTION	KIT NUMBER	
	GRM2xS	GRM4xS
IMPACT PLATE KIT	63967-01	64638-01
JAW REBUILD KIT	62152-01	62152-02
SEAL KIT	63965-02	63965-04
FASTENER KIT	63966-02	63966-04

NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: STANDARD JAW STYLE "S"

GRM2xS-x-75xxx-00xxx
GRM4xS-x-75xxx-00xxx
 STOP BLOCK NOT REQUIRED

75° Jaw A Rotates



LETTER DIM	MODEL NUMBER			
	GRM2xS		GRM4xS	
	in	mm	in	mm
B4 (OPEN)	6.437	163.5	8.799	223.5
J1 (OPEN)	3.642	92.5	4.617	117.3
J6 (OPEN)	2.720	69.1	3.447	87.6
J14	.922	23.4	1.170	29.7
J15 (OPEN)	1.864	47.3	2.542	64.6
T2	1.729	43.9	2.308	58.6

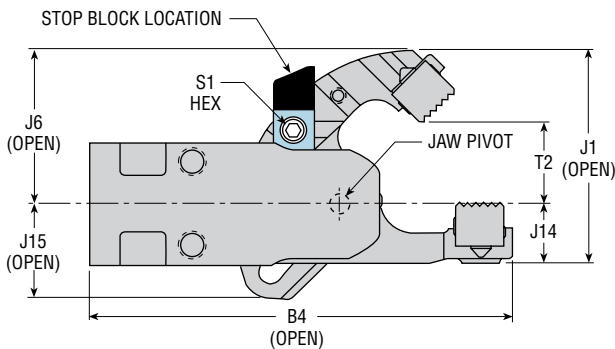
NOTE:
 THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.

IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.

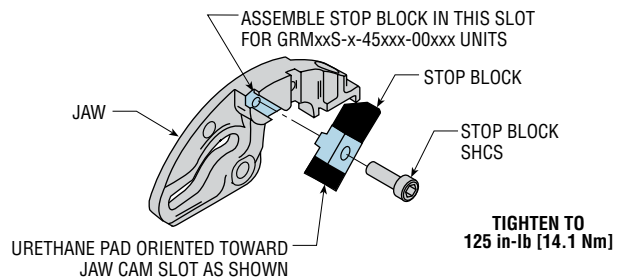
Standard Jaw

GRM2xS-x-45xxx-00xxx
GRM4xS-x-45xxx-00xxx
 ONE STOP BLOCK REQUIRED

45° Jaw A Rotates

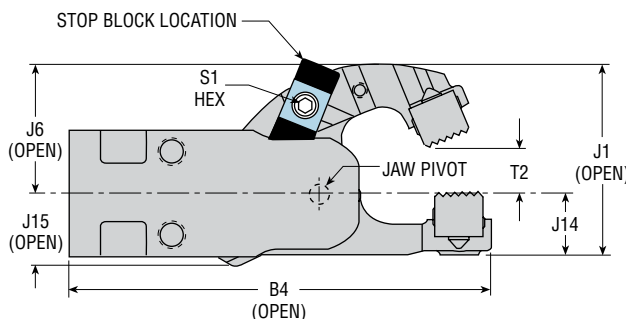


LETTER DIM	MODEL NUMBER			
	GRM2xS		GRM4xS	
	in	mm	in	mm
B4 (OPEN)	6.437	163.5	8.799	223.5
J1 (OPEN)	3.324	84.4	4.355	110.6
J6 (OPEN)	2.402	61.0	3.185	80.9
J14	.922	23.4	1.170	29.7
J15 (OPEN)	1.495	38.0	2.095	53.2
S1	.197	5.0	.197	5.0
T2	1.294	32.9	1.773	45.0

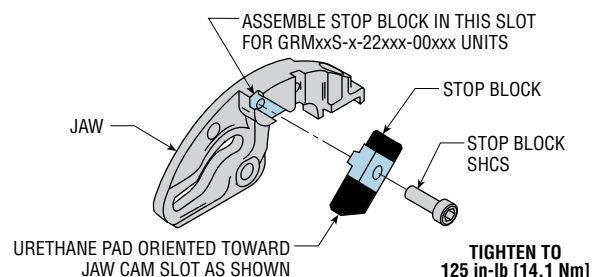


GRM2xS-x-22xxx-00xxx
GRM4xS-x-22xxx-00xxx
 ONE STOP BLOCK REQUIRED

22° Jaw A Rotates



LETTER DIM	MODEL NUMBER			
	GRM2xS		GRM4xS	
	in	mm	in	mm
B4 (OPEN)	6.437	163.5	8.799	223.5
J1 (OPEN)	2.888	73.4	3.977	101.0
J6 (OPEN)	1.966	49.9	2.807	71.3
J14	.922	23.4	1.170	29.7
J15 (OPEN)	1.088	27.6	1.481	37.6
S1	.197	5.0	.197	5.0
T2	.702	17.8	.950	24.1

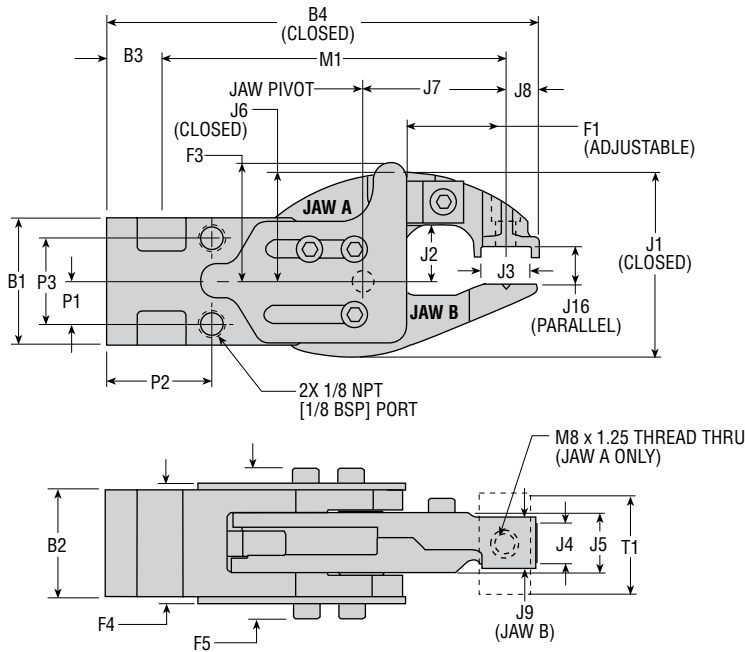


All dimensions are reference only unless specifically tolerated.

DIMENSIONS: SINGLE CHISEL JAW STYLE "C" - SIZE 2

GRM2xC-x-xxxxx-xx

Chisel Jaw



LETTER DIM	MODEL NUMBER	
	GRM2xC	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	6.437	163.5
F1 MAX	1.496	38.0
F1 MIN	.985	25.0
F3	1.801	45.7
F4	1.864	47.3
F5	2.336	59.3
J1 (CLOSED)	2.782	70.7
J2 (CLOSED)	.866	22.0
J3*	.755	19.18
J4*	.630	16.00
J5	.906	23.0
J6 (CLOSED)	1.657	42.1
J7	2.146	54.5
J8	.472	12.0
J9	.800	20.3
J16 (PARALLEL)	.557	14.1
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	5.138	130.5
T1**	1.530	38.9

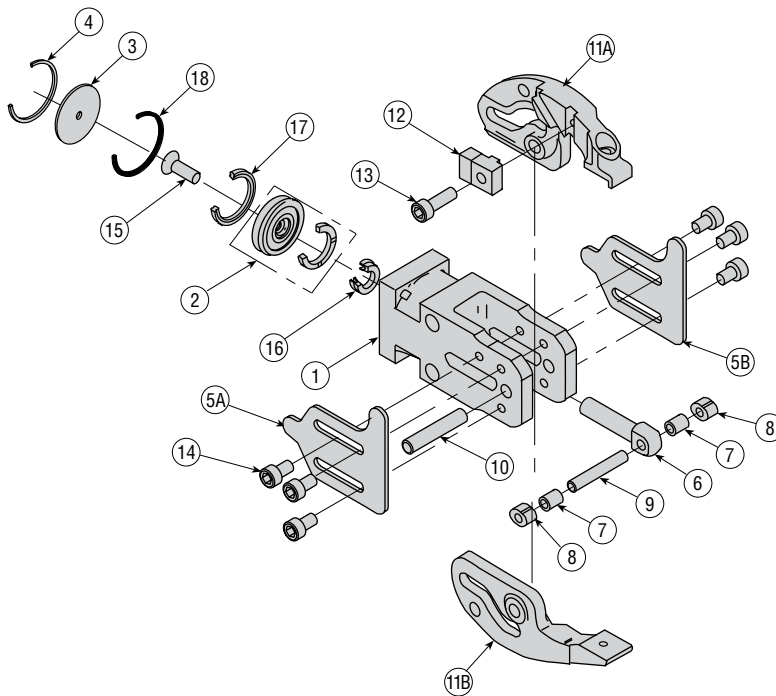
* TOLERANCE FOR J3 & J4 = ± .003 [± .076]

(JAW A ONLY)

** T1 IS THE LARGEST TIP AVAILABLE.

NOTE:
SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER
		GRM2xC
1	BODY ASSEMBLY -imperial -metric	63947-11
		63947-12
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63952-01
5B	IMPACT PLATE	63952-01
6	ROD/JAW DRIVER	63950
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-009
10	PIVOT PIN	62176-01
11A	JAW (A)	63954-02
11B	JAW (B)	63957-02
12	STOP BLOCK	63962-02
13	STOP BLOCK SHCS	59104-118
14	IMPACT PLATE SHCS	59104-114
15	PISTON SFHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1

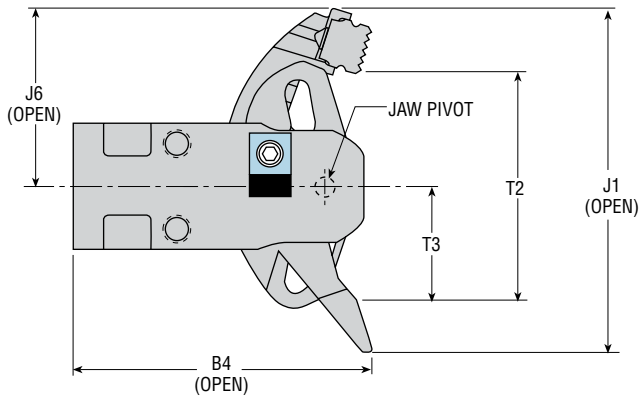
KIT DESCRIPTION	KIT NUMBER
	GRM2xC
IMPACT PLATE KIT	63967-01
JAW REBUILD KIT	62152-01
SEAL KIT	63965-02
FASTENER KIT	63966-02

NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: SINGLE CHISEL JAW STYLE "C"

GRM2xC-x-75xxx-75 STOP BLOCK NOT REQUIRED

75° Both Jaws Rotate



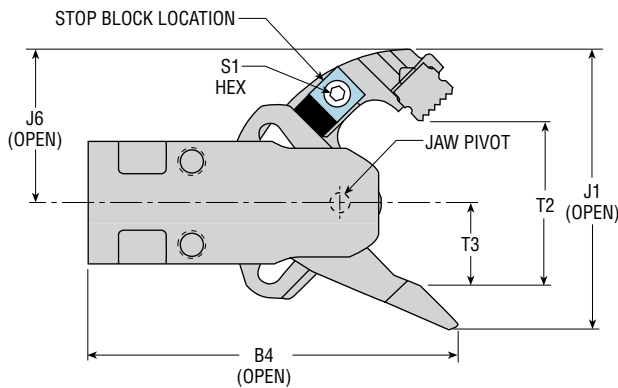
LETTER DIM	MODEL NUMBER GRM2xC	
	in	mm
B4 (OPEN)	4.479	113.8
J1 (OPEN)	5.257	133.5
J6 (OPEN)	2.720	69.1
T2	3.466	88.0
T3	1.740	44.2

NOTE:
THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.

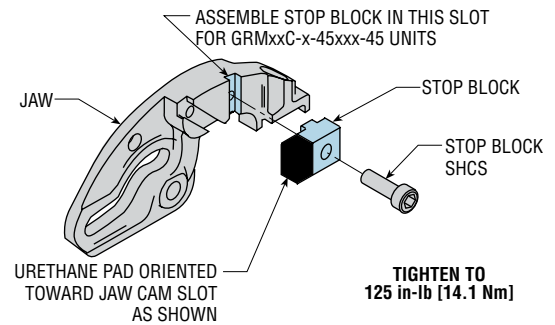
IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.

GRM2xC-x-45xxx-45 ONE STOP BLOCK REQUIRED

45° Both Jaws Rotate

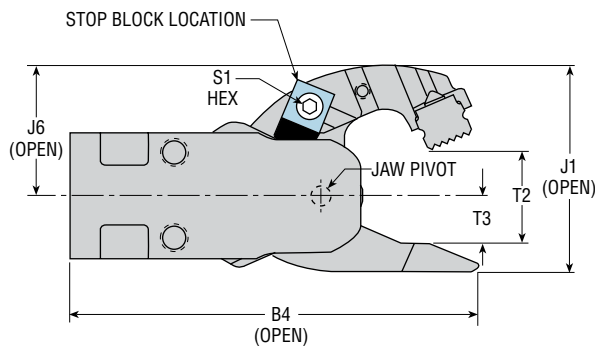


LETTER DIM	MODEL NUMBER GRM2xC	
	in	mm
B4 (OPEN)	5.644	143.4
J1 (OPEN)	4.303	109.3
J6 (OPEN)	2.402	61.0
S1	.197	5.0
T2	2.569	65.2
T3	1.278	32.5

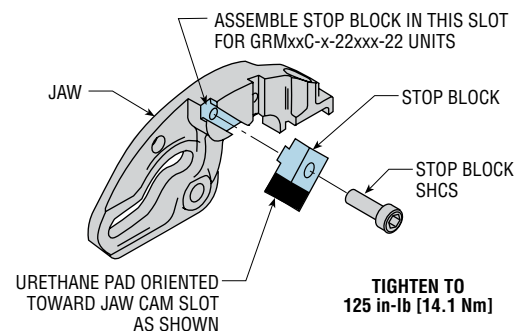


GRM2xC-x-22xxx-22 ONE STOP BLOCK REQUIRED

22° Both Jaws Rotate



LETTER DIM	MODEL NUMBER GRM2xC	
	in	mm
B4 (OPEN)	6.219	158.0
J1 (OPEN)	3.100	78.7
J6 (OPEN)	1.966	49.9
S1	.197	5.0
T2	1.395	35.4
T3	.695	17.7

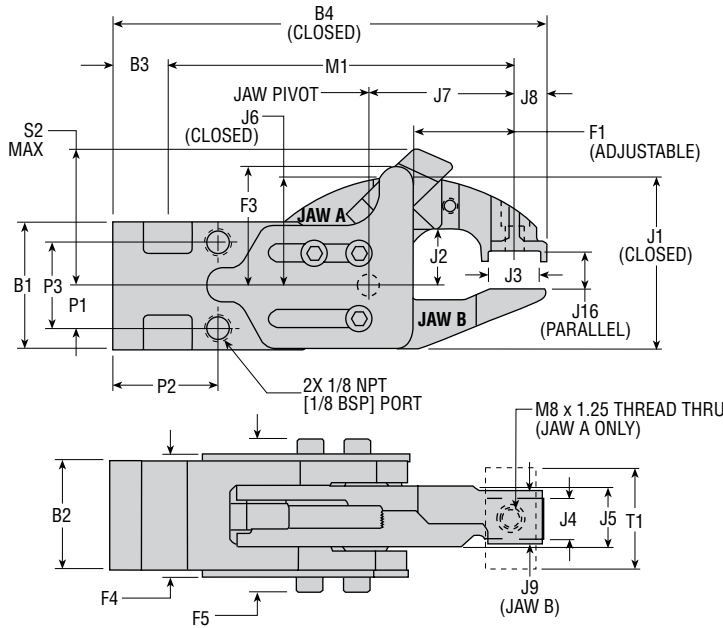


All dimensions are reference only unless specifically tolerated.

DIMENSIONS: SINGLE CHISEL JAW STYLE "C" - SIZE 2

GRM2xC-x-xxxxx-00

Chisel Jaw



LETTER DIM	MODEL NUMBER	
	GRM2xC	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	6.437	163.5
F1 MAX	1.496	38.0
F1 MIN	.985	25.0
F3	1.801	45.7
F4	1.864	47.3
F5	2.336	59.3
J1 (CLOSED)	2.579	65.5
J2 (CLOSED)	.866	22.0
J3*	.755	19.18
J4*	.630	16.00
J5	.906	23.0
J6 (CLOSED)	1.657	42.1
J7	2.146	54.5
J8	.472	12.0
J9	.800	20.3
J16 (PARALLEL)	.557	14.1
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	5.138	130.5
S2***	2.071	52.6
T1**	1.530	38.9

* TOLERANCE FOR J3 & J4 = ± .003 [± .076] (JAW A ONLY)

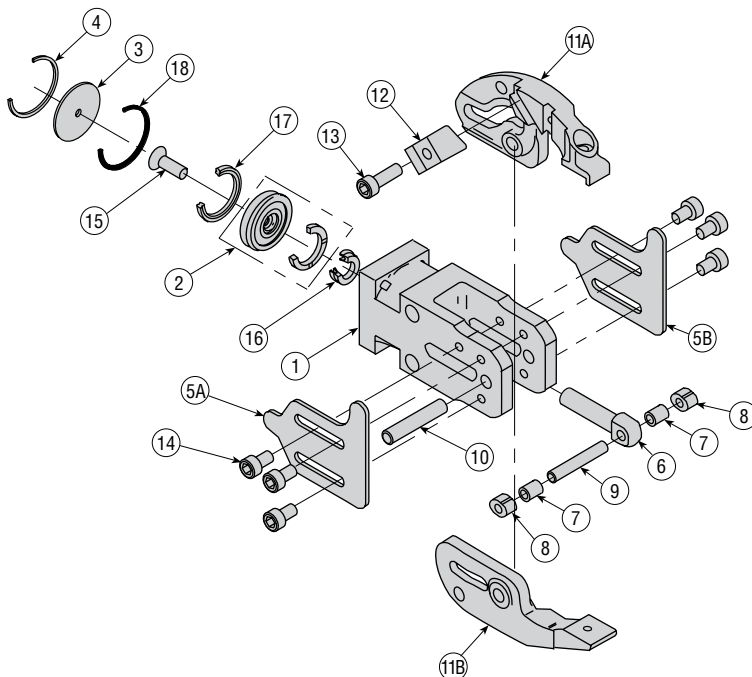
** T1 IS THE LARGEST TIP AVAILABLE.

***S2 DIMENSION OCCURS ON 22°-00° ONLY.

NOTES:

- 1) SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.
- 2) THE 0° JAW ROTATES 3° DURING THE CLAMP CYCLE, OPENING THE END OF THE JAW .079 [2.0]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER
		GRM2xC
1	BODY ASSEMBLY -imperial -metric	63947-11
		63947-12
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63952-01
5B	IMPACT PLATE	63952-01
6	ROD/JAW DRIVER	63950
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-009
10	PIVOT PIN	62176-01
11A	JAW (A)	63954-02
11B	JAW (B)	63955-02
12	STOP BLOCK	63962-03
13	STOP BLOCK SHCS	59104-118
14	IMPACT PLATE SHCS	59104-114
15	PISTON SFHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1

KIT DESCRIPTION	KIT NUMBER
	GRM2xC
IMPACT PLATE KIT	63967-01
JAW REBUILD KIT	62152-01
SEAL KIT	63965-02
FASTENER KIT	63966-02

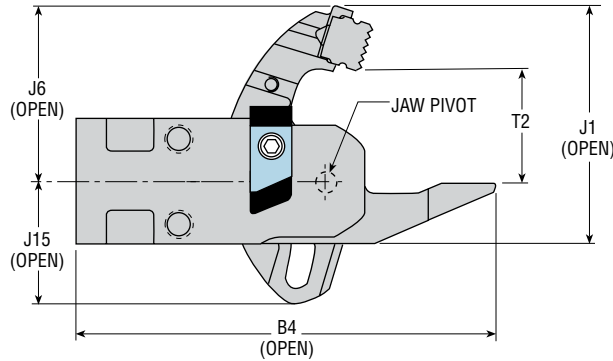
NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: SINGLE CHISEL JAW STYLE "C"

GRM2xC-x-75xxx-00

STOP BLOCK NOT REQUIRED

75° Jaw A Rotates



LETTER DIM	MODEL NUMBER	
	GRM2xC	
	in	mm
B4 (OPEN)	6.437	163.5
J1 (OPEN)	3.642	92.5
J6 (OPEN)	2.720	69.1
J15 (OPEN)	1.864	47.3
T2	1.733	44.0

NOTE:

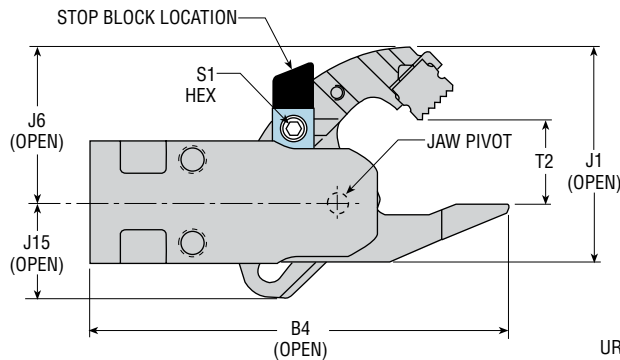
THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.

IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.

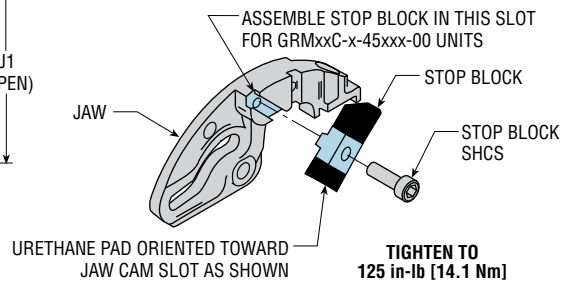
GRM2xC-x-45xxx-00

ONE STOP BLOCK REQUIRED

45° Jaw A Rotates



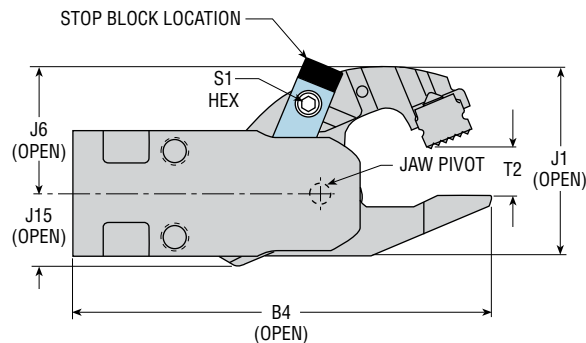
LETTER DIM	MODEL NUMBER	
	GRM2xC	
	in	mm
B4 (OPEN)	6.437	163.5
J1 (OPEN)	3.324	84.4
J6 (OPEN)	2.402	61.0
J15 (OPEN)	1.495	38.0
S1	.197	5.0
T2	1.299	33.0



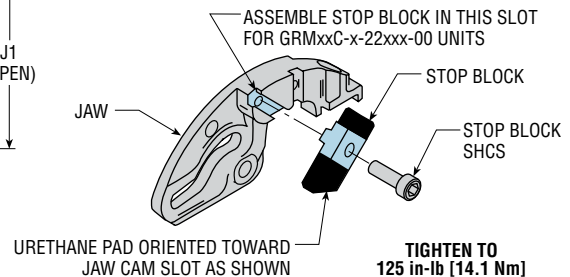
GRM2xC-x-22xxx-00

ONE STOP BLOCK REQUIRED

22° Jaw A Rotates



LETTER DIM	MODEL NUMBER	
	GRM2xC	
	in	mm
B4 (OPEN)	6.437	163.5
J1 (OPEN)	2.888	73.4
J6 (OPEN)	1.966	49.9
J15 (OPEN)	1.088	27.6
S1	.197	5.0
T2	.707	18.0

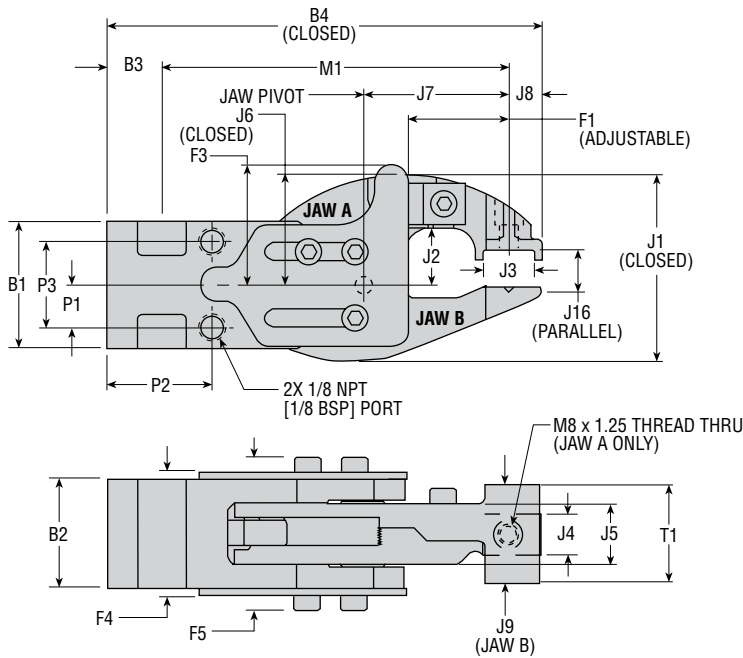


All dimensions are reference only unless specifically tolerated.

DIMENSIONS: DOUBLE CHISEL JAW STYLE "D" - SIZE 2

GRM2xD-x-xxxxx-xx

Chisel Jaw



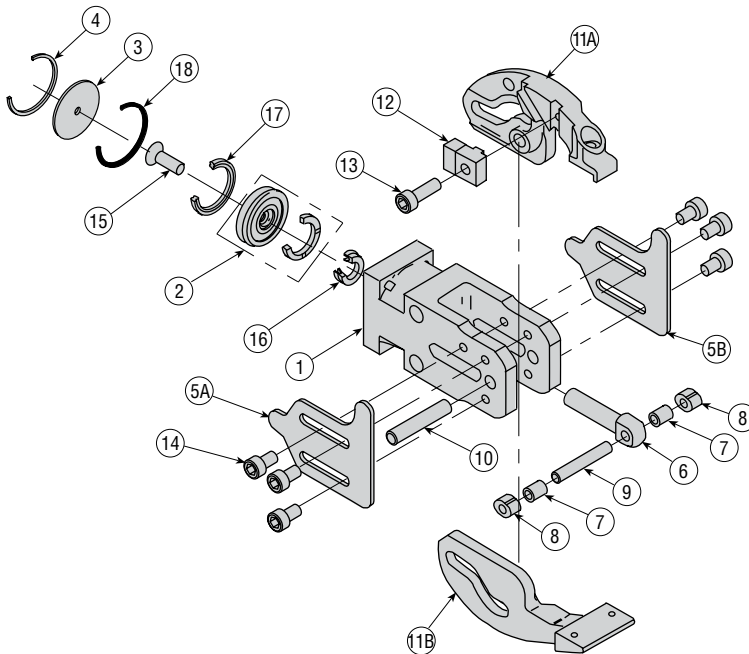
LETTER DIM	MODEL NUMBER	
	GRM2xD	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	6.437	163.5
F1 MAX	1.496	38.0
F1 MIN	.985	25.0
F3	1.801	45.7
F4	1.864	47.3
F5	2.336	59.3
J1 (CLOSED)	2.782	70.7
J2 (CLOSED)	.866	22.0
J3*	.755	19.18
J4*	.630	16.00
J5	.906	23.0
J6 (CLOSED)	1.657	42.1
J7	2.146	54.5
J8	.472	12.0
J9	1.500	38.1
J16 (PARALLEL)	.557	14.1
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	5.138	130.5
T1**	1.530	38.9

* TOLERANCE FOR J3 & J4 = ± .003 [± .076] (JAW A ONLY)

** T1 IS THE LARGEST TIP AVAILABLE.

NOTE:
SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER
		GRM2xD
1	BODY ASSEMBLY -imperial	63947-11
	-metric	63947-12
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63952-01
5B	IMPACT PLATE	63952-01
6	ROD/JAW DRIVER	63950
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-009
10	PIVOT PIN	62176-01
11A	JAW (A)	63954-02
11B	JAW (B)	63958-02
12	STOP BLOCK	63962-02
13	STOP BLOCK SHCS	59104-118
14	IMPACT PLATE SHCS	59104-114
15	PISTON SFHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1

KIT DESCRIPTION	KIT NUMBER
	GRM2xD
IMPACT PLATE KIT	63967-01
JAW REBUILD KIT	62152-01
SEAL KIT	63965-02
FASTENER KIT	63966-02

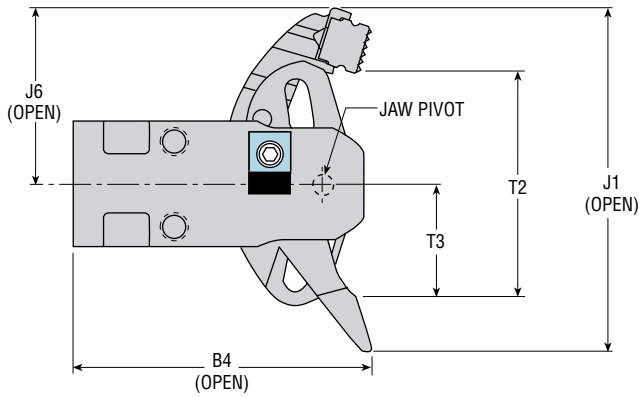
NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: DOUBLE CHISEL JAW STYLE "D"

GRM2xD-x-75xxx-75

STOP BLOCK NOT REQUIRED

75° Both Jaws Rotate



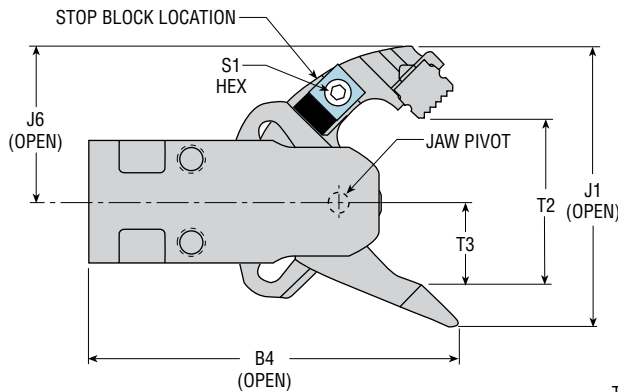
LETTER DIM	MODEL NUMBER	
	GRM2xD	
	in	mm
B4 (OPEN)	4.479	113.8
J1 (OPEN)	5.257	133.5
J6 (OPEN)	2.720	69.1
T2	3.466	88.0
T3	1.740	44.2

NOTE:
THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.
IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.

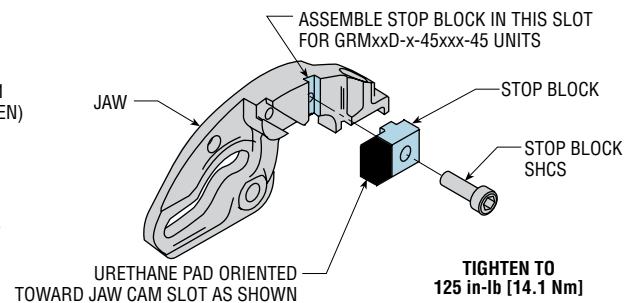
GRM2xD-x-45xxx-45

ONE STOP BLOCK REQUIRED

45° Both Jaws Rotate



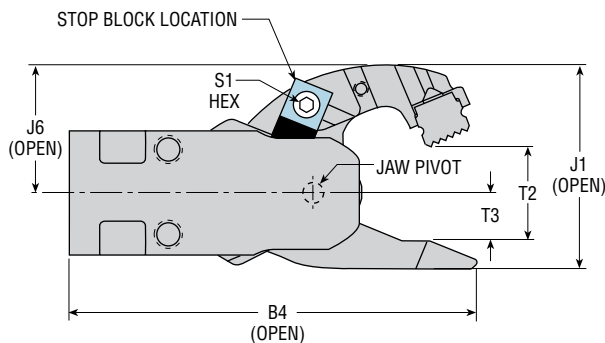
LETTER DIM	MODEL NUMBER	
	GRM2xD	
	in	mm
B4 (OPEN)	5.644	143.4
J1 (OPEN)	4.303	109.3
J6 (OPEN)	2.402	61.0
S1	.197	5.0
T2	2.569	65.2
T3	1.278	32.5



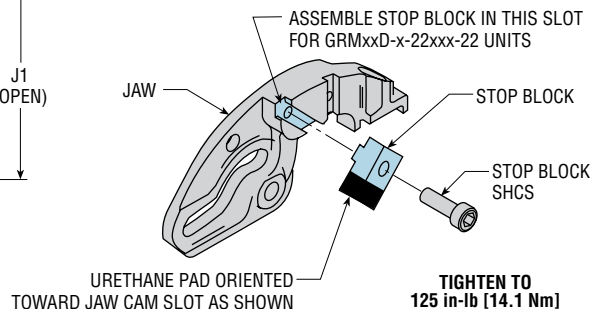
GRM2xD-x-22xxx-22

ONE STOP BLOCK REQUIRED

22° Both Jaws Rotate



LETTER DIM	MODEL NUMBER	
	GRM2xD	
	in	mm
B4 (OPEN)	6.219	158.0
J1 (OPEN)	3.100	78.7
J6 (OPEN)	1.966	49.9
S1	.197	5.0
T2	1.395	35.4
T3	.695	17.7

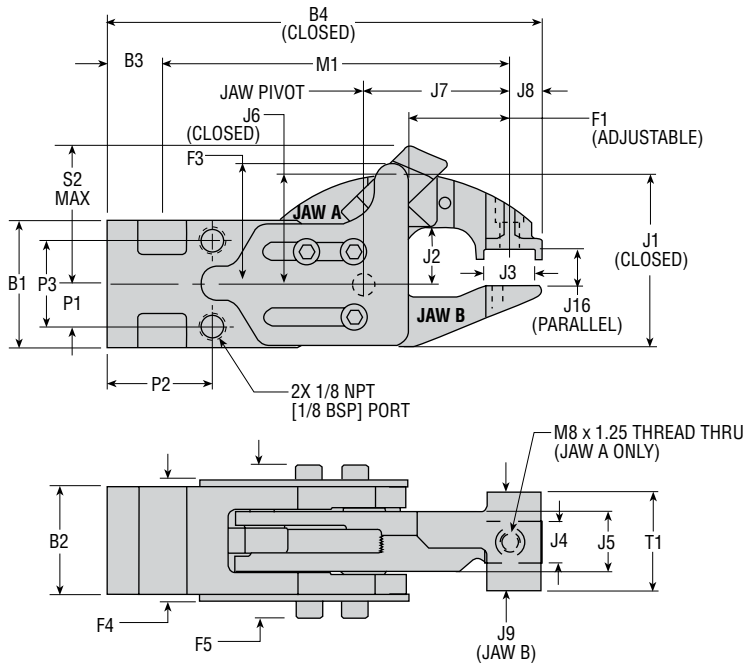


All dimensions are reference only unless specifically tolerated.

DIMENSIONS: DOUBLE CHISEL JAW STYLE "D" - SIZE 2

GRM2xD-x-xxxxx-00

Chisel Jaw



LETTER DIM	MODEL NUMBER	
	GRM2xD	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	6.437	163.5
F1 MAX	1.496	38.0
F1 MIN	.985	25.0
F3	1.801	45.7
F4	1.864	47.3
F5	2.336	59.3
J1 (CLOSED)	2.579	65.5
J2 (CLOSED)	.866	22.0
J3*	.755	19.18
J4*	.630	16.00
J5	.906	23.0
J6 (CLOSED)	1.657	42.1
J7	2.146	54.5
J8	.472	12.0
J9	1.500	38.1
J16 (PARALLEL)	.557	14.1
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	5.138	130.5
S2***	2.071	52.6
T1**	1.530	38.9

* TOLERANCE FOR J3 & J4 = ± .003 [± .076] (JAW A ONLY)

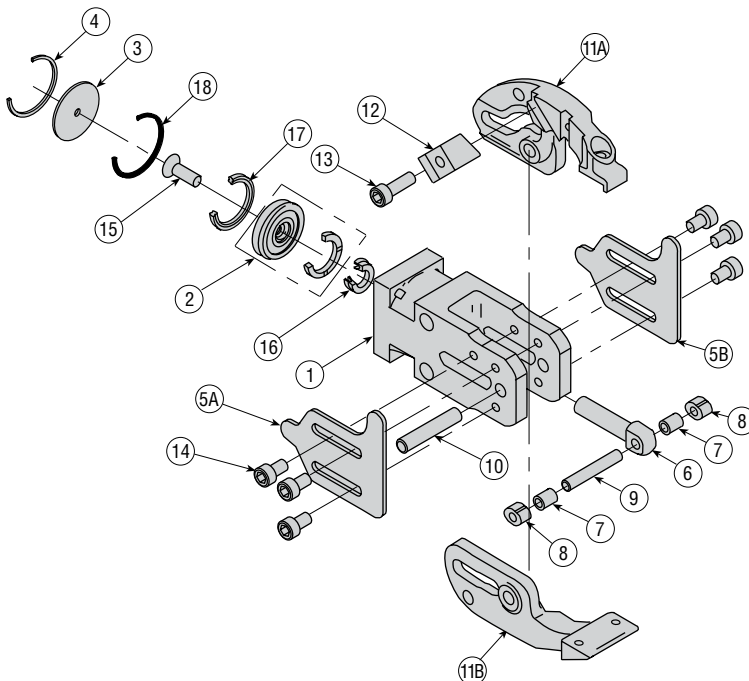
** T1 IS THE LARGEST TIP AVAILABLE.

***S2 DIMENSION OCCURS ON 22°-00° ONLY.

NOTES:

- 1) SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.
- 2) THE 0° JAW ROTATES 3° DURING THE CLAMP CYCLE, OPENING THE END OF THE JAW .079 [2.0]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER
		GRM2xD
1	BODY ASSEMBLY -imperial	63947-11
		-metric
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63952-01
5B	IMPACT PLATE	63952-01
6	ROD/JAW DRIVER	63950
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-009
10	PIVOT PIN	62176-01
11A	JAW (A)	63954-02
11B	JAW (B)	63956-02
12	STOP BLOCK	63962-03
13	STOP BLOCK SHCS	59104-118
14	IMPACT PLATE SHCS	59104-114
15	PISTON SFHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1

KIT DESCRIPTION	KIT NUMBER
	GRM2xD
IMPACT PLATE KIT	63967-01
JAW REBUILD KIT	62152-01
SEAL KIT	63965-02
FASTENER KIT	63966-02

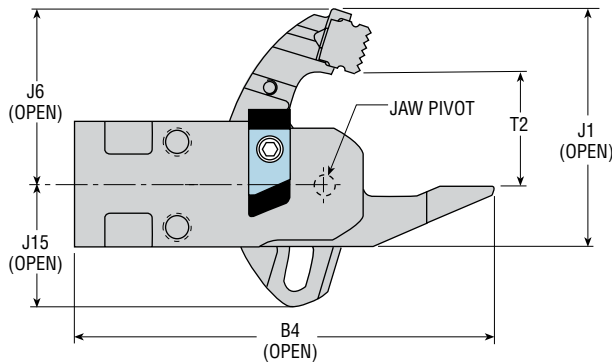
NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: DOUBLE CHISEL JAW STYLE "D"

GRM2xD-x-75xxx-00

STOP BLOCK NOT REQUIRED

75° Jaw A Rotates



LETTER DIM	MODEL NUMBER	
	GRM2xD	
	in	mm
B4 (OPEN)	6.437	163.5
J1 (OPEN)	3.642	92.5
J6 (OPEN)	2.720	69.1
J15 (OPEN)	1.864	47.3
T2	1.733	44.0

NOTE:

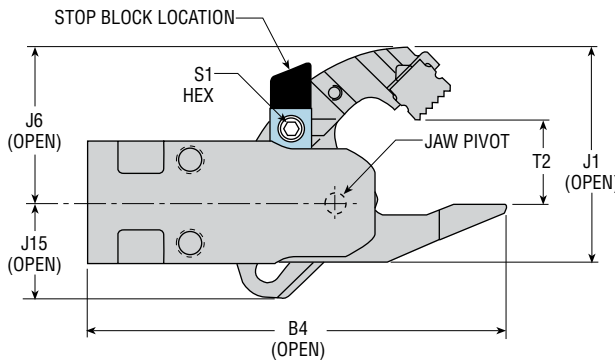
THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.

IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.

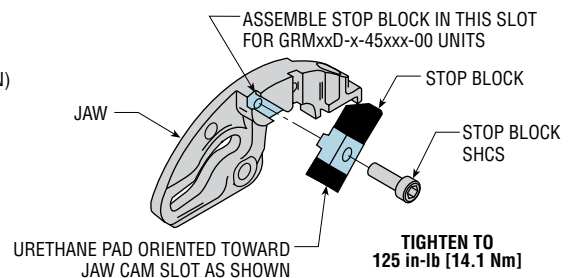
GRM2xD-x-45xxx-00

ONE STOP BLOCK REQUIRED

45° Jaw A Rotates



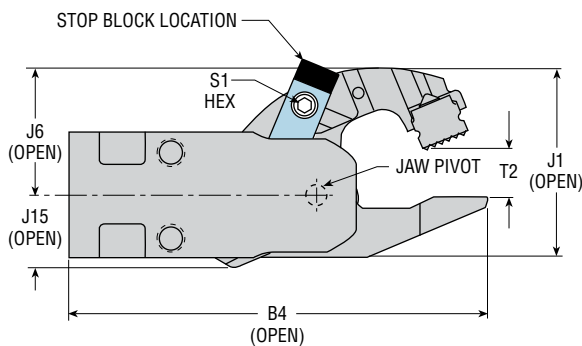
LETTER DIM	MODEL NUMBER	
	GRM2xD	
	in	mm
B4 (OPEN)	6.437	163.5
J1 (OPEN)	3.324	84.4
J6 (OPEN)	2.402	61.0
J15 (OPEN)	1.495	38.0
S1	.197	5.0
T2	1.299	33.0



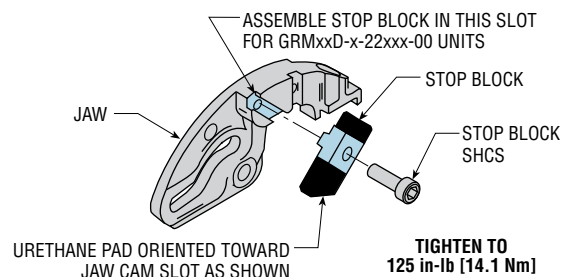
GRM2xD-x-22xxx-00

ONE STOP BLOCK REQUIRED

22° Jaw A Rotates



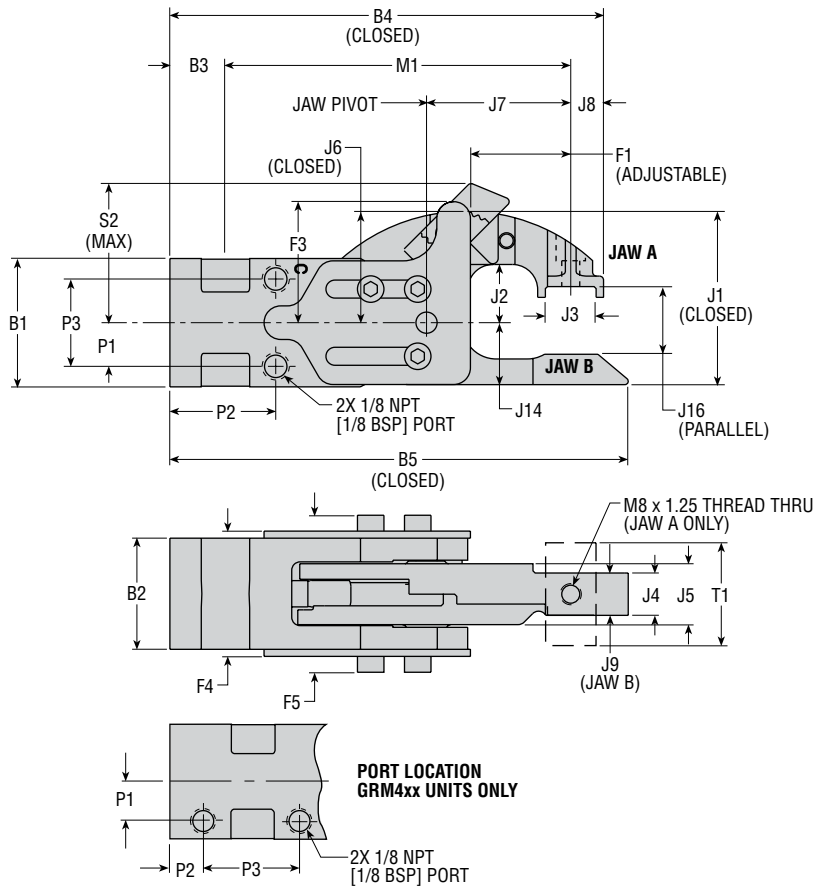
LETTER DIM	MODEL NUMBER	
	GRM2xD	
	in	mm
B4 (OPEN)	6.437	163.5
J1 (OPEN)	2.888	73.4
J6 (OPEN)	1.966	49.9
J15 (OPEN)	1.088	27.6
S1	.197	5.0
T2	.707	18.0



All dimensions are reference only unless specifically tolerated.

DIMENSIONS: SINGLE SHOVEL JAW STYLE "H" - SIZES 2 & 4

GRM2xH-x-xxxxx-00
GRM4xH-x-xxxxx-00



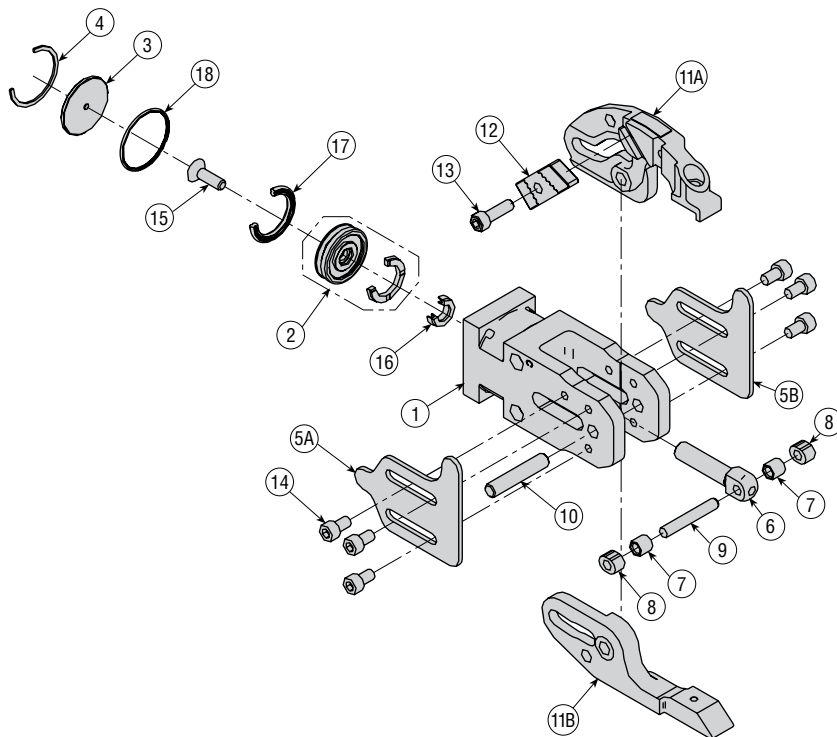
LETTER DIM	MODEL NUMBER			
	GRM2xH		GRM4xH	
	in	mm	in	mm
B1	1.910	48.5	2.176	55.3
B2	1.654	42.0	1.980	50.3
B3	.827	21.0	1.338	34.0
B4 (CLOSED)	6.437	163.5	8.799	223.5
B5 (CLOSED)	6.820	173.2	9.429	239.5
F1 MAX	1.496	38.0	2.126	54.0
F1 MIN	.985	25.0	1.286	32.7
F3	1.801	45.7	2.560	65.0
F4	1.864	47.3	2.190	55.6
F5	2.336	59.3	2.662	67.6
J1 (CLOSED)	2.579	65.5	3.532	89.7
J2 (CLOSED)	.866	22.0	1.360	34.5
J3*	.755	19.18	.755	19.18
J4*	.630	16.00	.785	19.94
J5	.906	23.0	1.136	28.9
J6 (CLOSED)	1.657	42.1	2.362	60.0
J7	2.146	54.5	2.815	71.5
J8	.472	12.0	.492	12.5
J9	.630	16.0	.785	19.9
J14	.922	23.4	1.170	29.7
J16 (PARALLEL)	1.007	25.6	1.584	40.2
P1	.650	16.5	.388	9.9
P2	1.575	40.0	.452	11.5
P3	1.300	33.0	1.772	45.0
M1	5.138	130.5	6.969	177.0
S2***	2.071	52.6	2.850	72.4
T1**	1.530	38.9	1.850	47.0

* TOLERANCE FOR J3 & J4 = ± .003 [± .076] (JAW A ONLY)
** T1 IS THE LARGEST TIP AVAILABLE.
***S2 DIMENSION OCCURS ON 22°-00° ONLY.

NOTES:

- 1) SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.
- 2) THE 0° JAW ROTATES 1.7° DURING THE CLAMP CYCLE, OPENING THE END OF THE JAW .102 [2.6]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER	
		GRM2xH	GRM4xH
1	BODY ASSEMBLY -imperial -metric	63947-11 63947-12	64627-11 64627-12
2	PISTON & SHOCK PAD	63949	64631
3	BORE PLUG	61467	61468
4	RETAINING RING	57618-034	57618-042
5A	IMPACT PLATE	63952-01	64636-01
5B	IMPACT PLATE	63952-01	64636-01
6	ROD/JAW DRIVER	63950	63969
7	JAW BUSHING	62097	62098
8	SLIDER BUSHING	62099-01	62100
9	ROD/JAW DRIVER PIN	52416-009	52416-027
10	PIVOT PIN	62176-01	62177-01
11A	JAW (A)	63954-02	63975-02
11B	JAW (B)	65233-01	63977-02
12	STOP BLOCK	63962-03	64635-03
13	STOP BLOCK SHCS	59104-118	59104-118
14	IMPACT PLATE SHCS	59104-114	59104-114
15	PISTON SFHCS	59104-600	62221-001
16	ROD SEAL	77635-009	78610-006
17	PISTON SEAL	74042-008	74042-009
18	BORE PLUG SEAL	3642-027-1	3642-028-1

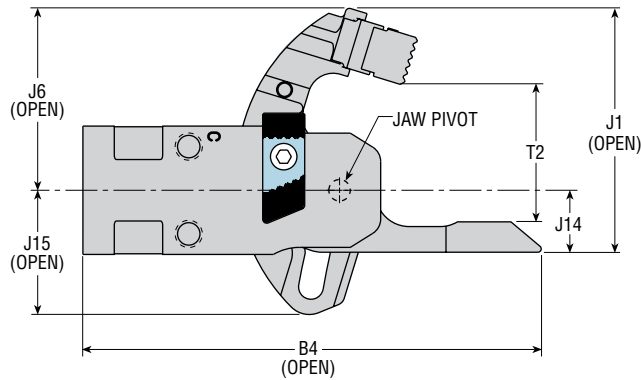
KIT DESCRIPTION	KIT NUMBER	
	GRM2xH	GRM4xH
IMPACT PLATE KIT	63967-01	64638-01
JAW REBUILD KIT	62152-01	62152-02
SEAL KIT	63965-02	63965-04
FASTENER KIT	63966-02	63966-04

NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: SINGLE SHOVEL JAW STYLE "H"

GRM2xH-x-75xxx-00
GRM4xH-x-75xxx-00
 STOP BLOCK NOT REQUIRED

75° Jaw A Rotates



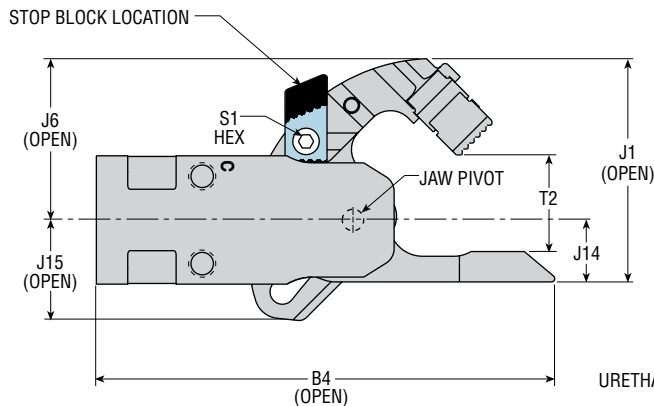
LETTER DIM	MODEL NUMBER			
	GRM2xH		GRM4xH	
	in	mm	in	mm
B4 (OPEN)	6.820	173.2	9.429	239.5
J1 (OPEN)	3.606	91.6	4.617	117.3
J6 (OPEN)	2.684	68.2	3.447	87.6
J14	.922	23.4	1.170	29.7
J15	1.804	45.8	2.542	64.6
T2	1.961	49.8	2.675	67.9

NOTE:
 THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.

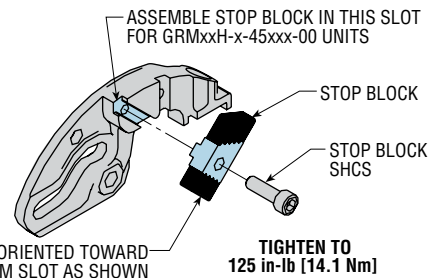
IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.

GRM2xH-x-45xxx-00
GRM4xH-x-45xxx-00
 ONE STOP BLOCK REQUIRED

45° Jaw A Rotates

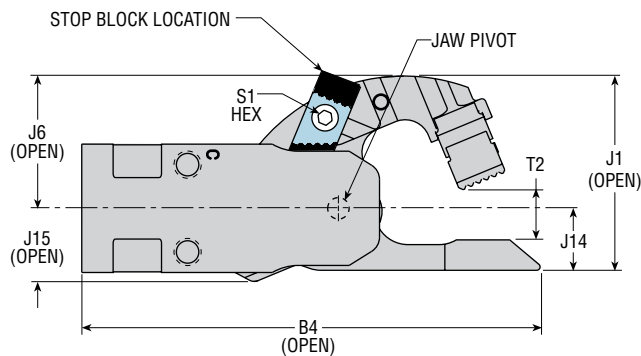


LETTER DIM	MODEL NUMBER			
	GRM2xH		GRM4xH	
	in	mm	in	mm
B4 (OPEN)	6.820	173.2	9.429	239.5
J1 (OPEN)	3.324	84.4	4.355	110.6
J6 (OPEN)	2.402	61.0	3.185	80.9
J14	.922	23.4	1.170	29.7
J15 (OPEN)	1.495	38.0	2.095	53.2
S1	.197	5.0	.197	5.0
T2	1.438	36.5	1.929	49.0

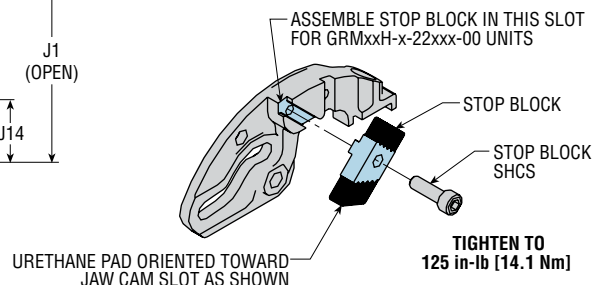


GRM2xH-x-22xxx-00
GRM4xH-x-22xxx-00
 ONE STOP BLOCK REQUIRED

22° Jaw A Rotates



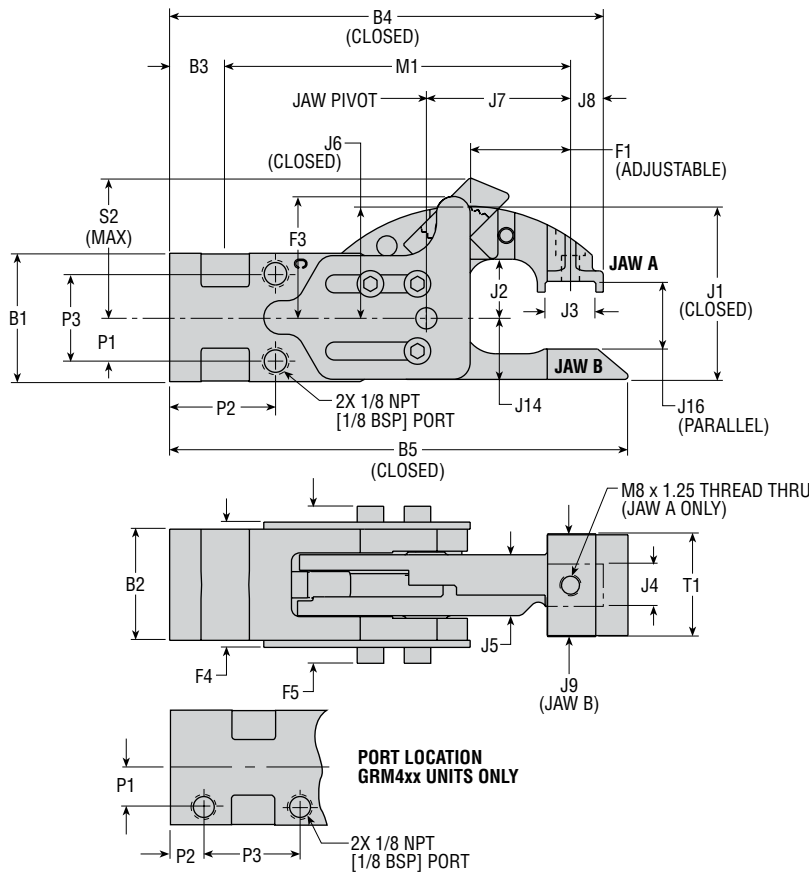
LETTER DIM	MODEL NUMBER			
	GRM2xH		GRM4xH	
	in	mm	in	mm
B4 (OPEN)	6.820	173.2	9.429	239.5
J1 (OPEN)	2.888	73.4	3.977	101.0
J6 (OPEN)	1.966	49.9	2.807	71.3
J14	.922	23.4	1.170	29.7
J15 (OPEN)	1.088	27.6	1.481	37.6
S1	.197	5.0	.197	5.0
T2	.747	19.0	1.003	25.5



All dimensions are reference only unless specifically tolerated.

DIMENSIONS: DOUBLE SHOVEL JAW STYLE "J" - SIZES 2 & 4

GRM2xJ-x-xxxx-00
GRM4xJ-x-xxxx-00



LETTER DIM	MODEL NUMBER			
	GRM2xJ		GRM4xJ	
	in	mm	in	mm
B1	1.910	48.5	2.176	55.3
B2	1.654	42.0	1.980	50.3
B3	.827	21.0	1.338	34.0
B4 (CLOSED)	6.437	163.5	8.799	223.5
B5 (CLOSED)	6.820	173.2	9.429	239.5
F1 MAX	1.496	38.0	2.126	54.0
F1 MIN	.985	25.0	1.286	32.7
F3	1.801	45.7	2.560	65.0
F4	1.864	47.3	2.190	55.6
F5	2.336	59.3	2.662	67.6
J1 (CLOSED)	2.579	65.5	3.532	89.7
J2 (CLOSED)	.866	22.0	1.360	34.5
J3*	.755	19.18	.755	19.18
J4*	.630	16.00	.785	19.94
J5	.906	23.0	1.136	28.9
J6 (CLOSED)	1.657	42.1	2.362	60.0
J7	2.146	54.5	2.815	71.5
J8	.472	12.0	.492	12.5
J9	1.500	38.1	1.850	47.0
J14	.922	23.4	1.170	29.7
J16 (PARALLEL)	1.007	25.6	1.342	34.1
P1	.650	16.5	.388	9.9
P2	1.575	40.0	.452	11.5
P3	1.300	33.0	1.772	45.0
M1	5.138	130.5	6.969	177.0
S2***	2.071	52.6	2.850	72.4
T1**	1.530	38.9	1.850	47.0

* TOLERANCE FOR J3 & J4 = ± .003 [± .076] (JAW A ONLY)

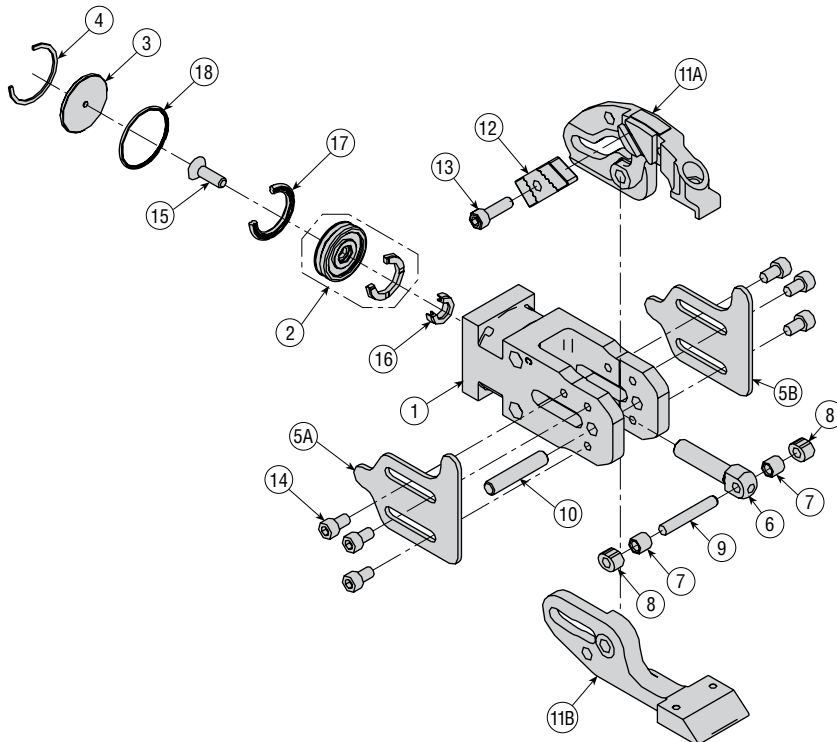
** T1 IS THE LARGEST TIP AVAILABLE.

***S2 DIMENSION OCCURS ON 22°-00° ONLY.

NOTES:

- SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.
- THE 0° JAW ROTATES 1.7° DURING THE CLAMP CYCLE, OPENING THE END OF THE JAW .102 [2.6]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER	
		GRM2xJ	GRM4xJ
1	BODY ASSEMBLY -imperial -metric	63947-11 63947-12	64627-11 64627-12
2	PISTON & SHOCK PAD	63949	64631
3	BORE PLUG	61467	61468
4	RETAINING RING	57618-034	57618-042
5A	IMPACT PLATE	63952-01	64636-01
5B	IMPACT PLATE	63952-01	64636-01
6	ROD/JAW DRIVER	63950	63969
7	JAW BUSHING	62097	62098
8	SLIDER BUSHING	62099-01	62100
9	ROD/JAW DRIVER PIN	52416-009	52416-027
10	PIVOT PIN	62176-01	62177-01
11A	JAW (A)	63954-02	63975-02
11B	JAW (B)	65234-01	63978-02
12	STOP BLOCK	63962-03	64635-03
13	STOP BLOCK SHCS	59104-118	59104-118
14	IMPACT PLATE SHCS	59104-114	59104-114
15	PISTON SFHCS	59104-600	62221-001
16	ROD SEAL	77635-009	78610-006
17	PISTON SEAL	74042-008	74042-009
18	BORE PLUG SEAL	3642-027-1	3642-028-1

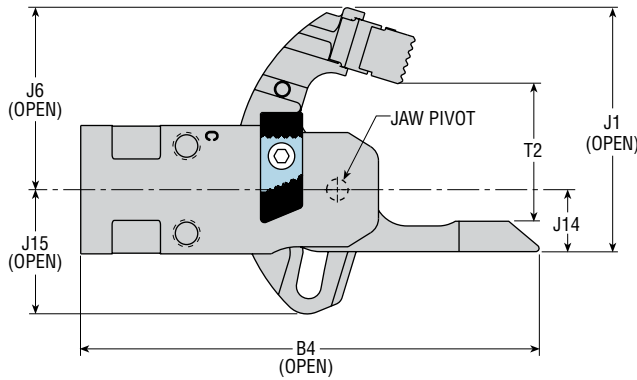
KIT DESCRIPTION	KIT NUMBER	
	GRM2xJ	GRM4xJ
IMPACT PLATE KIT	63967-01	64638-01
JAW REBUILD KIT	62152-01	62152-02
SEAL KIT	63965-02	63965-04
FASTENER KIT	63966-02	63966-04

NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: DOUBLE SHOVEL JAW STYLE "J"

GRM2xJ-x-75xxx-00
GRM4xJ-x-75xxx-00
 STOP BLOCK NOT REQUIRED

75° Jaw A Rotates



LETTER DIM	MODEL NUMBER			
	GRM2xJ		GRM4xJ	
	in	mm	in	mm
B4 (OPEN)	6.820	173.2	9.429	239.5
J1 (OPEN)	3.606	91.6	4.617	117.3
J6 (OPEN)	2.684	68.2	3.447	87.6
J14	.922	23.4	1.170	29.7
J15	1.804	45.8	2.542	64.6
T2	1.961	49.8	2.675	67.9

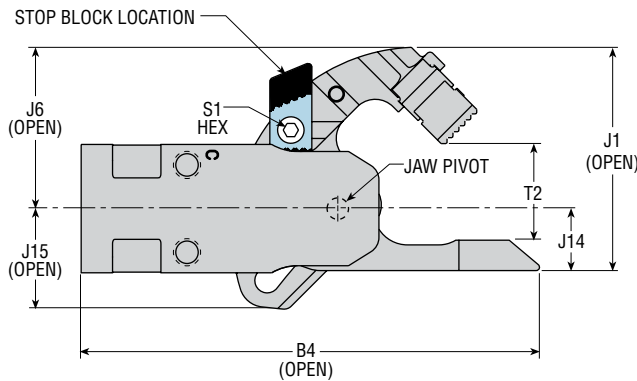
NOTE:

THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.

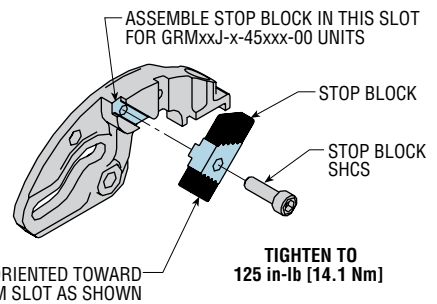
IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.

GRM2xJ-x-45xxx-00
GRM4xJ-x-45xxx-00
 ONE STOP BLOCK REQUIRED

45° Jaw A Rotates

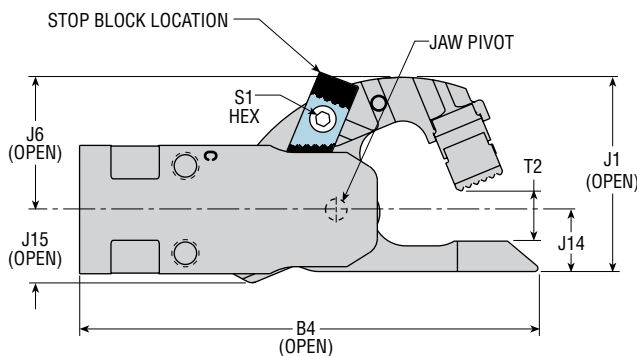


LETTER DIM	MODEL NUMBER			
	GRM2xJ		GRM4xJ	
	in	mm	in	mm
B4 (OPEN)	6.820	173.2	9.429	239.5
J1 (OPEN)	3.324	84.4	4.355	110.6
J6 (OPEN)	2.402	61.0	3.185	80.9
J14	.922	23.4	1.170	29.7
J15 (OPEN)	1.495	38.0	2.095	53.2
S1	.197	5.0	.197	5.0
T2	1.438	36.5	1.929	49.0

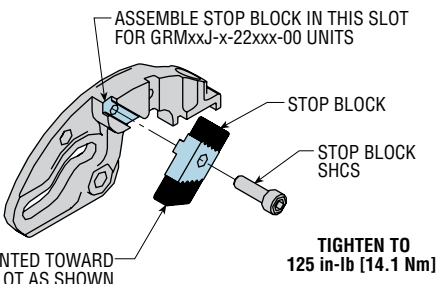


GRM2xJ-x-22xxx-00
GRM4xJ-x-22xxx-00
 ONE STOP BLOCK REQUIRED

22° Jaw A Rotates



LETTER DIM	MODEL NUMBER			
	GRM2xJ		GRM4xJ	
	in	mm	in	mm
B4 (OPEN)	6.820	173.2	9.429	239.5
J1 (OPEN)	2.888	73.4	3.977	101.0
J6 (OPEN)	1.966	49.9	2.807	71.3
J14	.922	23.4	1.170	29.7
J15 (OPEN)	1.088	27.6	1.481	37.6
S1	.197	5.0	.197	5.0
T2	.747	19.0	1.003	25.5



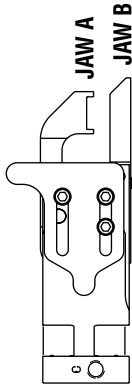
All dimensions are reference only unless specifically tolerated.

ORDERING DATA: GRM CLAMP JAW STYLES "L & M"

TO ORDER SPECIFY:

Size, Mounting, Jaw Style Option, Design No., Jaw Opening (A & B), Jaw Tip Option (A & B), and Fitting Option if desired.

GRM CLAMP JAW STYLE OPTION L & M STYLES ONLY		JAW A	
JAW B	0	22	45
		YES	YES
		85	YES



UNIT SIZE
2 - 32 mm Short

JAW STYLE OPTION
L - Single Flat Shovel Jaw
M - Double Flat Shovel Jaw

JAW OPENING - JAW A
22 - 22.5° Opening
45 - 45° Opening
85 - 85° Opening
(See Note 1)

JAW OPENING - JAW B
00 - 0° Opening
(See Note 1)

GRM **2** **S** **M** **- 2** **- 85** **DCB** **- 00** **- LAA**

MOUNTING

T - Rear M6 Mounting Threads
C - 90° Spherical Mounting Bracket
R - Non-Spherical Mounting Bracket
S - Spherical Mounting Bracket
W - Oversize Spherical Mounting Bracket
A - Rear Spherical Mounting Bracket
B - Oversize Rear Spherical Mtg Bracket

DESIGN NO.
2 - Imperial
6 - Metric
(See Note 2)

JAW TIP OPTIONS - JAW A

	Material Thickness			
	0 to 1.50 mm	1.51 to 3 mm	3.01 to 4 mm	4.01 to 4.5 mm
Color	Black	Silver	Gold	Red
No tip	Blank	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCG	SCR
Double Cone Point	DCB	DCS	DCG	DCR
Single Diamond Point	SDB	SDS	SDG	SDR
Double Diamond Point	ddb	DDS	DDG	DDR
Single Urethane Pad	SUB	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB	DUB

PORT FITTINGS
BLANK - No Fitting
LAA - 90° Swivel Elbow, Metal
LBB - 90° Swivel Elbow, Plastic
LCC - 90° Swivel Elbow, Metal

NOTES:

- 1) See chart for available jaw combinations.
- 2) Metric units have metric ports and mounting.



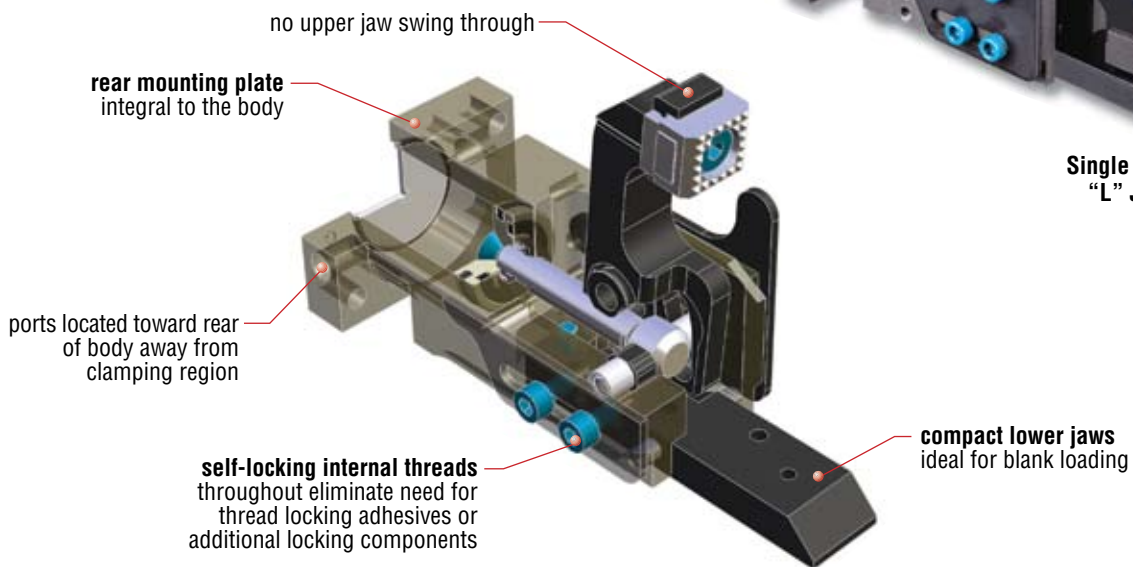
SMALL PROFILE CLAMP FOR VERY TIGHT OPENINGS



Double Flat Shovel
“M” Jaw Style



Single Flat Shovel
“L” Jaw Style



Flat Shovel Jaw

Major Benefits

- Small profile makes these clamps ideal for clamping in very tight openings.
- Available in two jaw styles and three openings.
- Simple design, long life, high grip force, and fast field maintenance. Ideal for sheet metal handling.
- Compact envelope size with up to 225 lb [1000 N] of grip force for maximum flexibility and performance.
- Jaws lock in closed position ensuring part retention even when air pressure is removed.
- Available with fixed or spherical mounting brackets for side or rear mounting.
- Two adjustable hardened-steel impact plates eliminate damage from panel impact.
- The moving jaw does not extend below the clamp when opened, allowing for minimal clearance.

Industry Uses

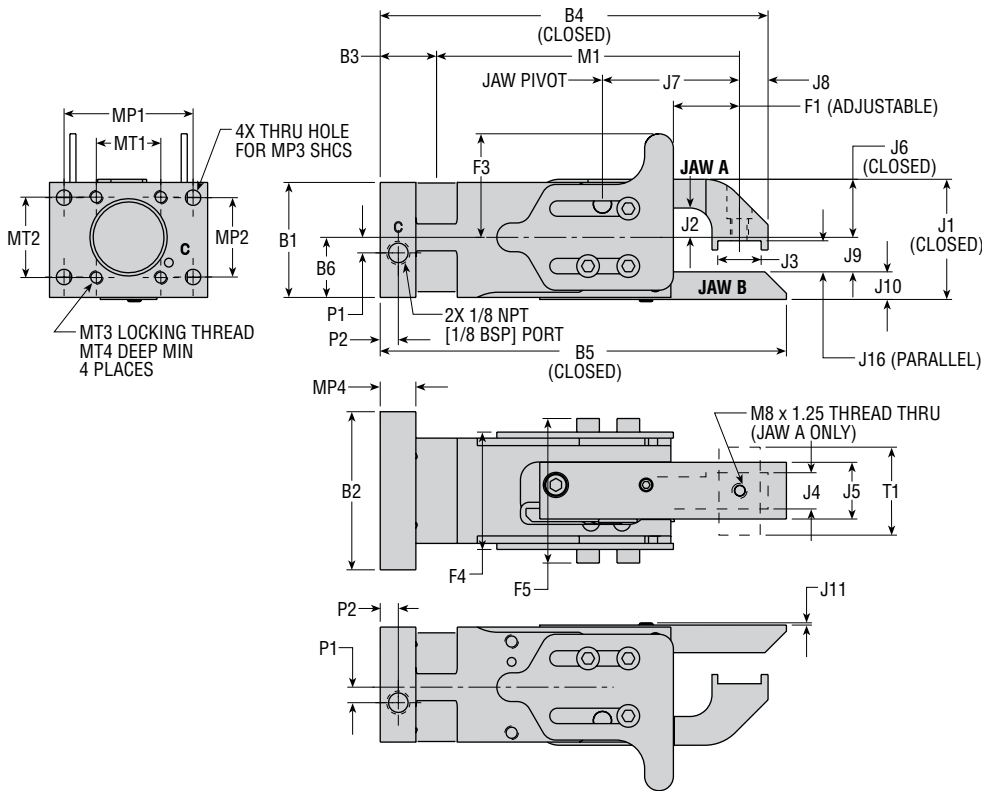
- Limited space environments
- Material handling
- Assembly
- General industrial automation



Contact your local distributor for Clamp unit pricing.

DIMENSIONS: SINGLE FLAT SHOVEL JAW STYLE "L" - SIZE 2

GRM2xL-x-xxxxx-00



* TOLERANCE FOR J3 & J4 = ± .003 [± .076]

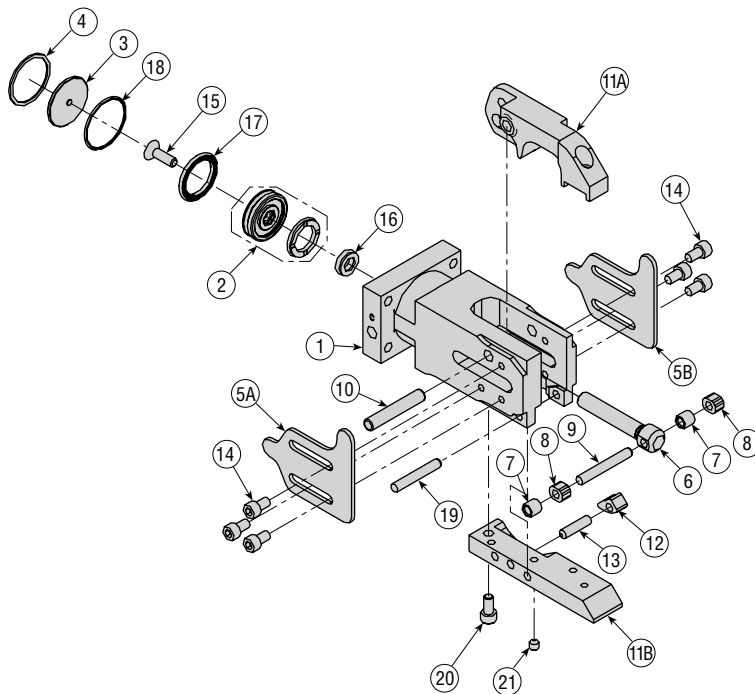
** T1 IS THE LARGEST TIP AVAILABLE.

NOTE: SEE TIP DIMENSION PAGE FOR OTHER TIP WIDTHS

LETTER DIM	MODEL NUMBER	
	GRM2xL	
	in	mm
B1	2.000	50.8
B2	2.750	69.9
B3	.980	24.9
B4 (CLOSED)	6.745	171.3
B5 (CLOSED)	7.065	179.5
B6	1.045	26.5
F1 MAX	1.145	29.1
F1 MIN	.623	15.8
F3	1.801	45.7
F4	2.041	51.8
F5	2.513	63.8
J1 (CLOSED)	2.090	53.1
J2 (CLOSED)	.510	13.0
J3*	.755	19.18
J4*	.630	16.00
J5	.986	25.0
J6 (CLOSED)	1.010	25.7
J7	2.384	60.6
J8	.496	12.6
J9	.600	15.2
J10	.480	12.2
J11	.039	1.0
J16 (PARALLEL)	.540	13.7
P1	.270	6.9
P2	.315	8.0
M1	5.269	133.8
MP1	2.244	57.0
MP2	1.380	35.1
MP3	1/4	M6
MP4	.620	15.7
MT1	1.122	28.5
MT2	1.398	35.5
MT3	M6 x 1.0	
MT4	.420	10.7
T1**	1.530	38.9

Flat Shovel Jaw

PARTS BREAKDOWN



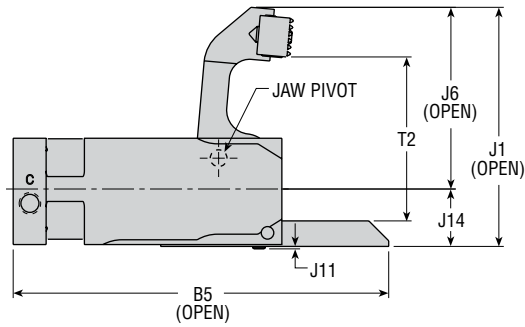
KEY	DESCRIPTION	PART NUMBER
		GRM2xL
1	BODY ASSEMBLY -imperial -metric	73059-01 73059-02
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63952-01
5B	IMPACT PLATE	63952-01
6	ROD/JAW DRIVER	73061-01
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-059
10	PIVOT PIN	62176-02
11A	JAW (A)	73062-01
11B	JAW (B)	73064-01
12	STOP BLOCK	73065-01
13	STOP BLOCK PIN	17831-169
14	IMPACT PLATE SHCS	59104-114
15	PISTON SFHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1
19	JAW MOUNTING PIN	17831-009
20	JAW MOUNTING SHCS	59104-115
21	JAW MTG SOCKET SET SCREW	17424-103

KIT DESCRIPTION	KIT NUMBER
	GRM2xL
IMPACT PLATE KIT	63967-01
JAW REBUILD KIT	62152-07
SEAL KIT	63965-02
FASTENER KIT	63966-06

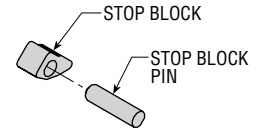
JAW ROTATION DIMENSIONS: JAW STYLE "L"

GRM2xL-x-85xxx-00

STOP BLOCK NOT REQUIRED
(STOP BLOCK & STOP BLOCK PIN SHIPPED WITH UNIT)

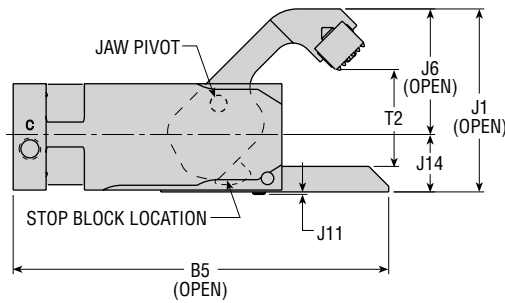


LETTER DIM	MODEL NUMBER	
	GRM2xL	
	in	mm
B5 (OPEN)	7.065	179.5
J1 (OPEN)	4.498	114.2
J6 (OPEN)	3.418	86.8
J11	.039	1.0
J14	1.080	27.4
T2	3.085	78.4

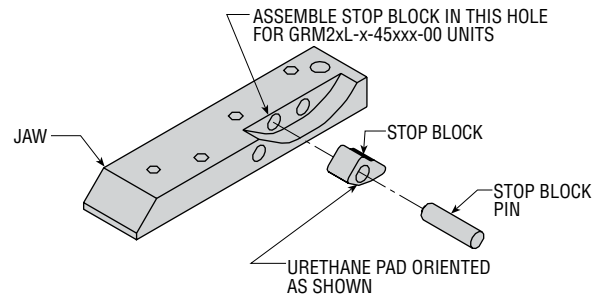


GRM2xL-x-45xxx-00

ONE STOP BLOCK REQUIRED

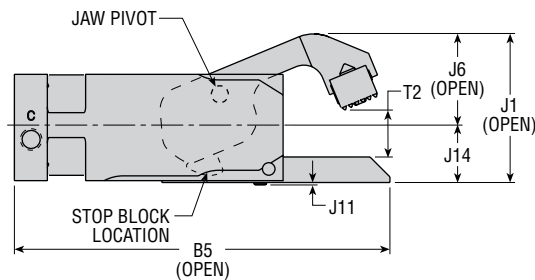


LETTER DIM	MODEL NUMBER	
	GRM2xL	
	in	mm
B5 (OPEN)	7.065	179.5
J1 (OPEN)	3.442	87.4
J6 (OPEN)	2.362	60.0
J11	.039	1.0
J14	1.080	27.4
T2	1.806	45.9

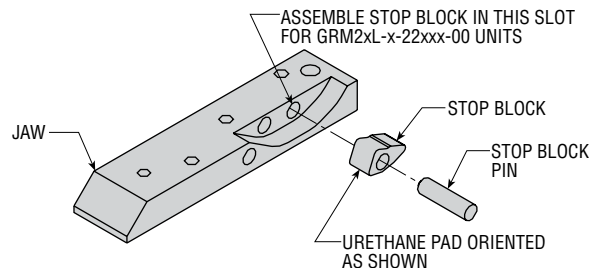


GRM2xL-x-22xxx-00

ONE STOP BLOCK REQUIRED



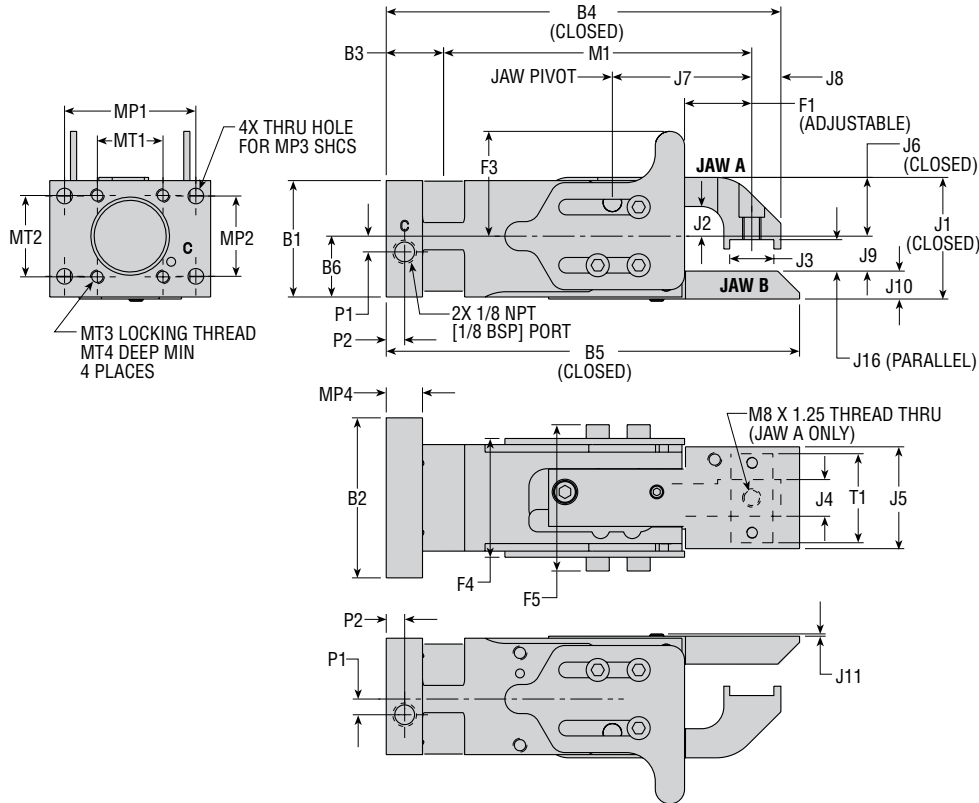
LETTER DIM	MODEL NUMBER	
	GRM2xL	
	in	mm
B5 (OPEN)	7.065	179.5
J1 (OPEN)	2.795	71.0
J6 (OPEN)	1.715	43.6
J11	.039	1.0
J14	1.080	27.4
T2	.883	22.4



All dimensions are reference only unless specifically tolerated.

DIMENSIONS: DOUBLE FLAT SHOVEL JAW STYLE "M" - SIZE 2

GRM2xM-x-xxxxx-00



* TOLERANCE FOR J3 & J4 = ± .003 [± .076]

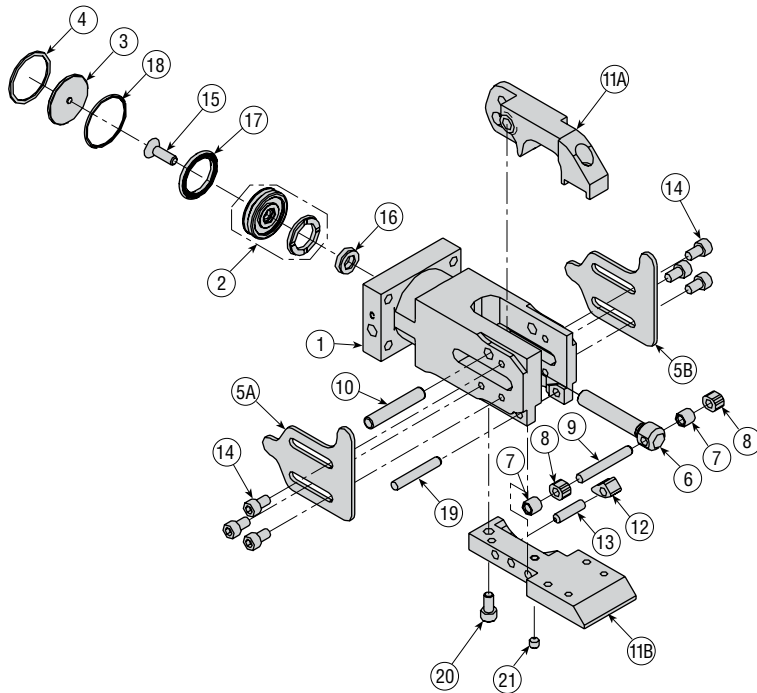
** T1 IS THE LARGEST TIP AVAILABLE.

NOTE: SEE TIP DIMENSION PAGE FOR OTHER TIP WIDTHS

LETTER DIM	MODEL NUMBER	
	GRM2xM	
	in	mm
B1	2.000	50.8
B2	2.750	69.9
B3	.980	24.9
B4 (CLOSED)	6.745	171.3
B5 (CLOSED)	7.065	179.5
B6	1.045	26.5
F1 MAX	1.145	29.1
F1 MIN	.623	15.8
F3	1.801	45.7
F4	2.041	51.8
F5	2.513	63.8
J1 (CLOSED)	2.090	53.1
J2 (CLOSED)	.510	13.0
J3*	.755	19.18
J4*	.630	16.00
J5	1.750	44.5
J6 (CLOSED)	1.010	25.7
J7	2.384	60.6
J8	.496	12.6
J9	.600	15.2
J10	.480	12.2
J11	.039	1.0
J16 (PARALLEL)	.540	13.7
P1	.270	6.9
P2	.315	8.0
M1	5.269	133.8
MP1	2.244	57.0
MP2	1.380	35.1
MP3	1/4	M6
MP4	.620	15.7
MT1	1.122	28.5
MT2	1.398	35.5
MT3		M6 x 1.0
MT4	.420	10.7
T1**	1.530	38.9

Flat Shovel Jaw

PARTS BREAKDOWN



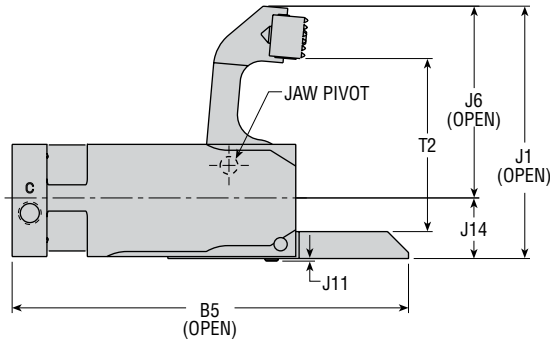
KEY	DESCRIPTION	PART NUMBER
		GRM2xM
1	BODY ASSEMBLY -imperial	73059-01
	-metric	73059-02
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63952-01
5B	IMPACT PLATE	63952-01
6	ROD/JAW DRIVER	73061-01
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-059
10	PIVOT PIN	62176-02
11A	JAW (A)	73062-01
11B	JAW (B)	73063-01
12	STOP BLOCK	73065-01
13	STOP BLOCK PIN	17831-169
14	IMPACT PLATE SHCS	59104-114
15	PISTON SHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1
19	JAW MOUNTING PIN	17831-009
20	JAW MOUNTING SHCS	59104-115
21	JAW MTG SOCKET SET SCREW	17424-103

KIT DESCRIPTION	KIT NUMBER
	GRM2xM
IMPACT PLATE KIT	63967-01
JAW REBUILD KIT	62152-07
SEAL KIT	63965-02
FASTENER KIT	63966-06

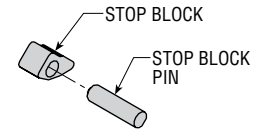
JAW ROTATION DIMENSIONS: JAW STYLE "M"

GRM2xM-x-85xxx-00

STOP BLOCK NOT REQUIRED
(STOP BLOCK & STOP BLOCK PIN SHIPPED WITH UNIT)

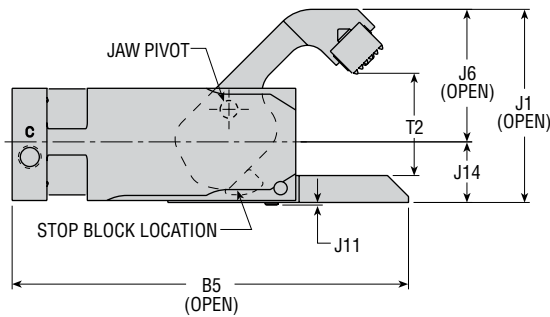


LETTER DIM	MODEL NUMBER	
	GRM2xM	
	in	mm
B5 (OPEN)	7.065	179.5
J1 (OPEN)	4.498	114.2
J6 (OPEN)	3.418	86.8
J11	.039	1.0
J14	1.080	27.4
T2	3.085	78.4

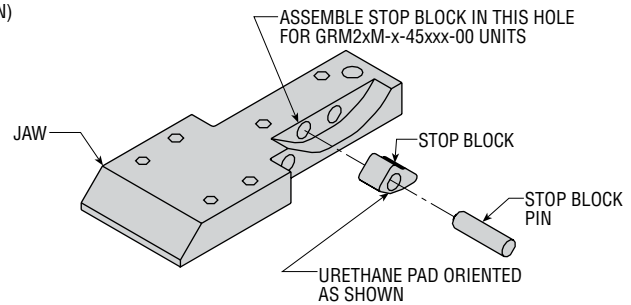


GRM2xM-x-45xxx-00

ONE STOP BLOCK REQUIRED

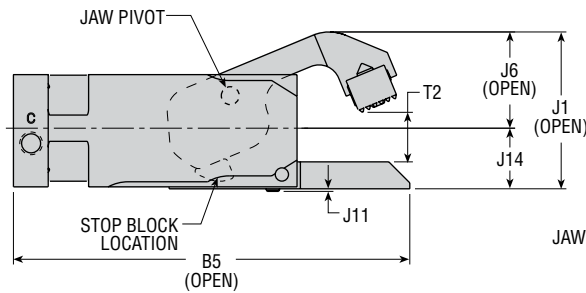


LETTER DIM	MODEL NUMBER	
	GRM2xM	
	in	mm
B5 (OPEN)	7.065	179.5
J1 (OPEN)	3.442	87.4
J6 (OPEN)	2.362	60.0
J11	.039	1.0
J14	1.080	27.4
T2	1.806	45.9

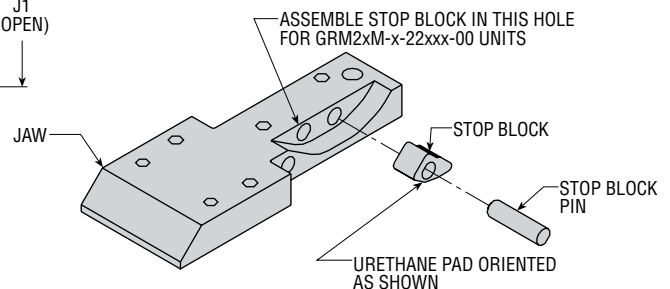


GRM2xM-x-22xxx-00

ONE STOP BLOCK REQUIRED



LETTER DIM	MODEL NUMBER	
	GRM2xM	
	in	mm
B5 (OPEN)	7.065	179.5
J1 (OPEN)	2.795	71.0
J6 (OPEN)	1.715	43.6
J11	.039	1.0
J14	1.080	27.4
T2	.883	22.4

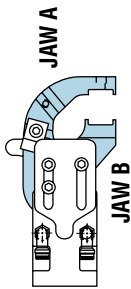


All dimensions are reference only unless specifically tolerated.

ORDERING DATA: GRM CLAMP FLANGE JAW STYLE "F"

TO ORDER SPECIFY:

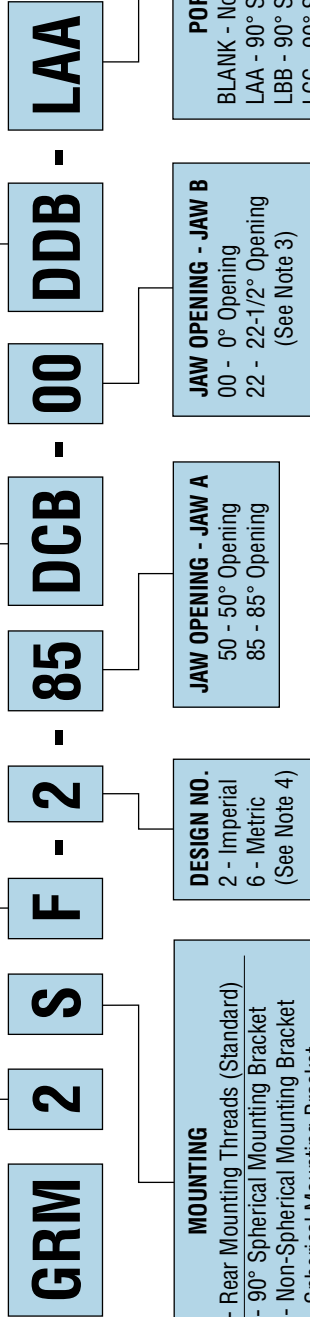
Size, Mounting, Jaw Style Option, Design No., Jaw Opening (A & B), Jaw Tip Option (A & B), and Fitting Option if desired.



SIZE 2		SIZE 4	
GRM CLAMP JAW STYLE OPTION F ONLY		GRM CLAMP JAW STYLE OPTION F ONLY	
JAW A	JAW B	JAW A	JAW B
50	85	50	85
YES	YES	YES	YES
NO	NO	NO	NO

UNIT SIZE
2 - 32 mm Short
4 - 40 mm

JAW STYLE OPTION
F - Flange Jaw



MOUNTING	
T	Rear Mounting Threads (Standard)
C	90° Spherical Mounting Bracket
R	Non-Spherical Mounting Bracket
S	Spherical Mounting Bracket
W	Oversize Spherical Mounting Bracket
A	Rear Spherical Mounting Bracket
B	Oversize Rear Spherical Mtg Bracket
P	Rear Mounting Plate

DESIGN NO.
2 - Imperial
6 - Metric

NOTES:

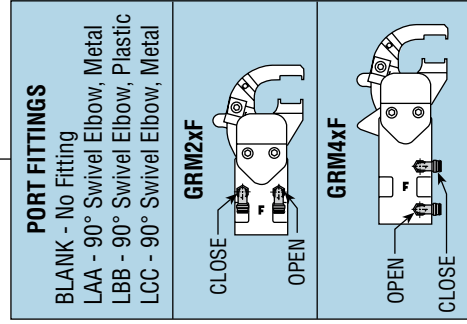
- See unit views or dimensions.
- See standard and chisel jaw style ordering data.
- The 0° jaw rotates open no greater than 3° during the clamp cycle. The 0° jaw returns to 0° position as the opposing jaw reaches the fully open and fully closed position. 22° opening on Jaw B is not available for size 4 flange jaw style.
- Metric units have metric ports and mounting. Imperial units have imperial ports and mountings.
- See Accessories section for non-standard options.
- Cone point against cone point tip combinations are not allowed due to point overlap.
- Red tips are available only on GRM size 2.

JAW TIP OPTIONS JAW A	Material Thickness							
	0 to .85 mm	.86 to 1.2 mm	1.21 to 1.52 mm	1.53 to 1.94 mm	1.95 to 2.29 mm	2.3 to 2.6 mm	2.61 to 3.0 mm	3.01 to 3.4 mm
No tip	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCG	SCS	SCG	SCG	Blank	Blank
Double Cone Point	DCB	DCS	DCG	DCS	DCG	DCG	SCR	SCR
Single Diamond Point	SDB	SDS	SDG	SDS	SDG	SDG	DCR	DCR
Double Diamond Point	DDB	DDS	DDG	DDS	DDG	DDG	SDR	SDR
Single Urethane Pad	SUB	SUB	SUB	SUB	SUB	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB	DUB	DUB	DUB	DUB	DUB

(See Notes 6 & 7)

JAW TIP OPTIONS JAW B	Material Thickness							
	0 to .85 mm	.86 to 1.2 mm	1.21 to 1.52 mm	1.53 to 1.94 mm	1.95 to 2.29 mm	2.3 to 2.6 mm	2.61 to 3.0 mm	3.01 to 3.4 mm
No tip	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
Single Cone Point	SCB	SCB	SCB	SCS	SCS	SCG	Blank	Blank
Single Diamond Point	SDB	SDB	SDB	SDS	SDS	SDG	SCR	SCR
Double Diamond Point	DDB	DDB	DDB	DDS	DDS	DDG	SDR	SDR
Single Urethane Pad	SUB	SUB	SUB	SUB	SUB	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB	DUB	DUB	DUB	DUB	DUB

(See Notes 6 & 7)



PORT FITTINGS

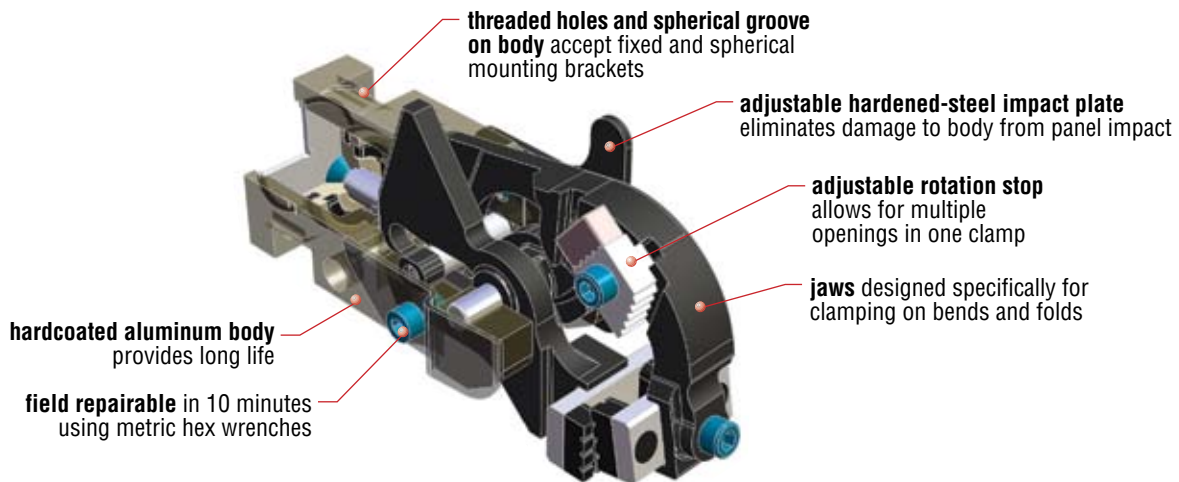
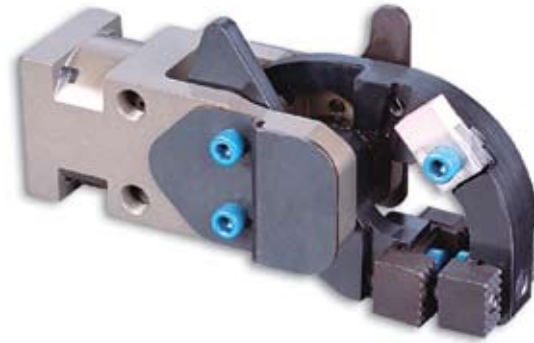
- BLANK - No Fitting
- LAA - 90° Swivel Elbow, Metal
- LBB - 90° Swivel Elbow, Plastic
- LCC - 90° Swivel Elbow, Metal

GRM2xF

GRM4xF



IDEAL FOR SHEET METAL HANDLING



Flange Jaw

Major Benefits

- Simple design, long life, high clamp force, and fast field maintenance. Ideal for sheet metal handling.
- Available in two sizes, one jaw style, and three jaw openings to fit a wide range of clamping applications.
- Compact envelope size and high clamp force. Series GRM size 2 generates up to 225 lb [1000 N] of clamp force. The Series GRM size 4 generates up to 500 lb [2224 N] of clamp force for maximum flexibility and performance.
- Six modular designed jaw tips are offered for maximum clamping performance in a variety of applications.
- The jaws of the Series GRM Clamp lock in the closed position ensuring part retention if air pressure is lost due to line rupture or power loss.
- For additional mounting, jaw, switch, and tip options, see the Series GRM Clamp Accessories section.

Industry Uses

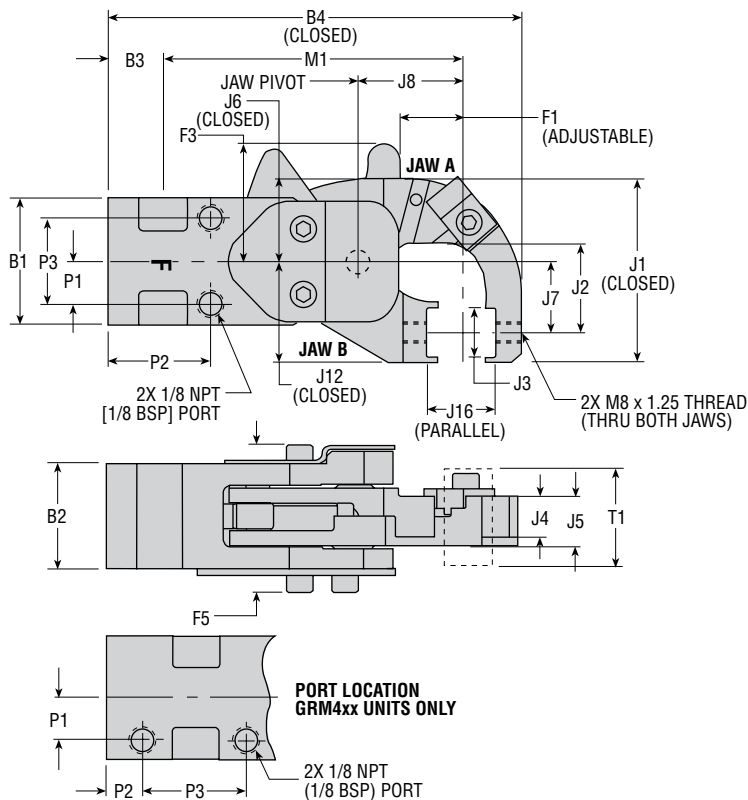
- Material handling when clamping on bends, folds, and flanges
- Assembly
- Packaging



Contact your local distributor for Clamp unit pricing.

DIMENSIONS: FLANGE JAW STYLE "F" - SIZES 2 & 4

GRM2xF-x-xxxxx-00xxx
GRM4xF-x-xxxxx-00xxx



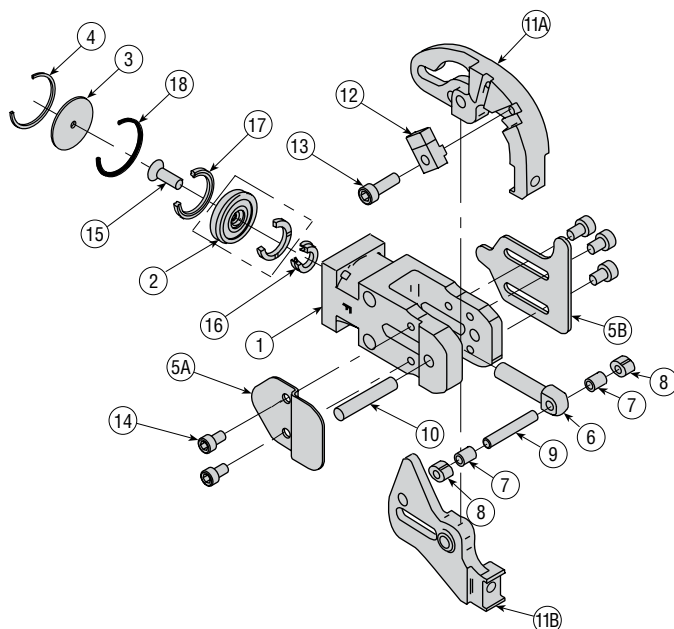
LETTER DIM	MODEL NUMBER			
	GRM2xF		GRM4xF	
	in	mm	in	mm
B1	1.910	48.5	2.176	55.3
B2	1.654	42.0	1.980	50.3
B3	.827	21.0	1.338	34.0
B4 (CLOSED)	6.358	161.5	8.692	220.8
F1 MAX	.965	24.5	1.339	34.0
F1 MIN	.453	11.5	.499	12.7
F3	1.801	45.7	2.560	65.0
F5	2.291	58.2	2.941	74.7
J1 (CLOSED)	2.787	70.8	3.757	95.4
J2 (CLOSED)	1.350	34.3	2.008	51.0
J3*	.755	19.18	.755	19.18
J4*	.630	16.00	.785	19.94
J5	.768	19.5	.961	24.4
J6 (CLOSED)	1.270	32.3	2.087	53.0
J7	1.063	27.0	1.181	30.0
J8	1.621	41.2	2.028	51.5
J12 (CLOSED)	1.517	38.5	1.673	42.5
J16 (PARALLEL)	1.064	27.0	1.595	40.5
P1	.650	16.5	.700	17.8
P2	1.575	40.0	.452	11.5
P3	1.300	33.0	1.772	45.0
M1	4.613	117.2	6.182	157.0
T1**	1.530	38.9	1.850	47.0

* TOLERANCE FOR J3 & J4 = ± .003 [± .076]
** T1 IS THE LARGEST TIP AVAILABLE.

- NOTES:**
- 1) SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.
 - 2) THE 0° JAW ROTATES 1.7° DURING THE CLAMP CYCLE. OPENING THE END OF THE JAW .035 [0.9]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

Flange Jaw

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER	
		GRM2xF	GRM4xF
1	BODY ASSEMBLY -imperial	63972-11	64629-11
	-metric	63972-12	64629-12
2	PISTON & SHOCK PAD	63949	64631
3	BORE PLUG	61467	61468
4	RETAINING RING	57618-034	57618-042
5A	IMPACT PLATE	63974	64634
5B	IMPACT PLATE	63952-01	64636-01
6	ROD/JAW DRIVER	63950	63969
7	JAW BUSHING	62097	62098
8	SLIDER BUSHING	62099-01	62100
9	ROD/JAW DRIVER PIN	52416-009	52416-027
10	PIVOT PIN	62176-02	62177-02
11A	JAW (A)	63961-02	63983-01
11B	JAW (B)	63959-02	63981-01
12	STOP BLOCK	63962-02	64635-02
13	STOP BLOCK SHCS	59104-118	59104-118
14	IMPACT PLATE SHCS	59104-114	59104-114
15	PISTON SFHCS	59104-600	62221-001
16	ROD SEAL	77635-009	78610-006
17	PISTON SEAL	74042-008	74042-009
18	BORE PLUG SEAL	3642-027-1	3642-028-1

KIT DESCRIPTION	KIT NUMBER	
	GRM2xF	GRM4xF
IMPACT PLATE KIT	63967-03	64638-03
JAW REBUILD KIT	62152-03	62152-04
SEAL KIT	63965-02	63965-04
FASTENER KIT	63966-02	63966-04

NOTE: SEE MOUNTING BRACKET KIT PAGE.

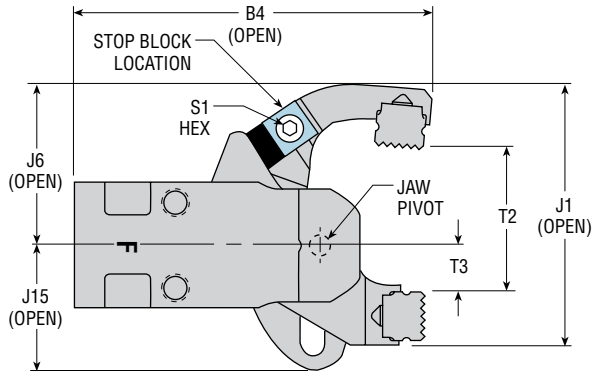
JAW ROTATION DIMENSIONS: FLANGE JAW STYLE "F"

GRM2xF-x-85xxx-00xxx

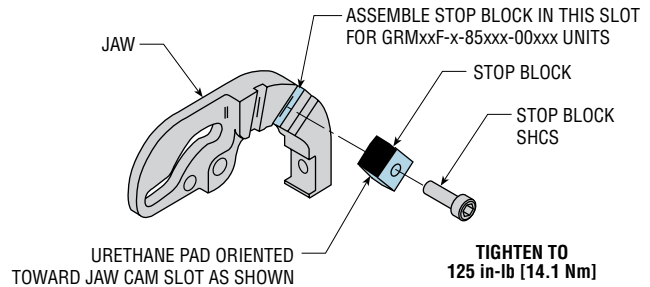
GRM4xF-x-85xxx-00xxx

ONE STOP BLOCK REQUIRED

85° Jaw A Rotates



LETTER DIM	MODEL NUMBER			
	GRM2xF		GRM4xF	
	in	mm	in	mm
B4 (OPEN)	5.539	140.7	7.434	188.8
J1 (OPEN)	4.008	101.8	4.897	124.4
J6 (OPEN)	2.491	63.3	3.224	81.9
J15 (OPEN)	1.910	48.5	2.651	67.3
S1	.197	5.0	.197	5.0
T2	2.179	55.3	2.688	68.3
T3	.689	17.5	.806	20.5

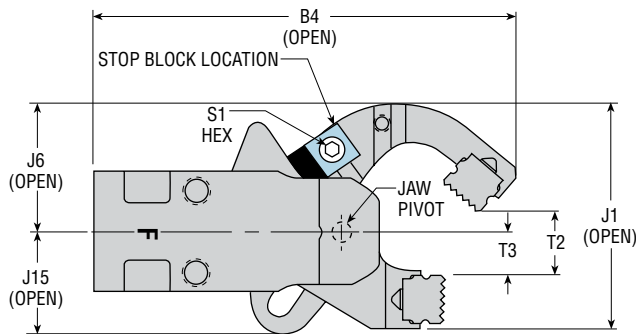


GRM2xF-x-50xxx-00xxx

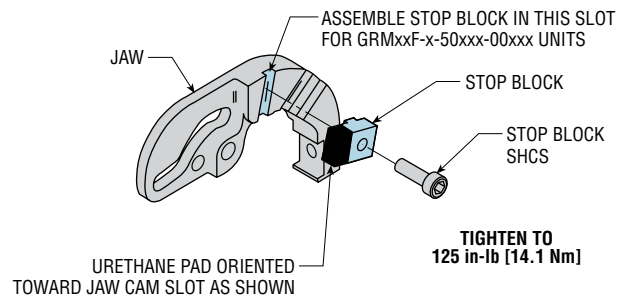
GRM4xF-x-50xxx-00xxx

ONE STOP BLOCK REQUIRED

50° Jaw A Rotates



LETTER DIM	MODEL NUMBER			
	GRM2xF		GRM4xF	
	in	mm	in	mm
B4 (OPEN)	6.532	165.9	8.828	224.2
J1 (OPEN)	3.563	90.5	4.751	120.7
J6 (OPEN)	2.045	51.9	3.077	78.2
J15 (OPEN)	1.606	40.8	2.182	55.4
S1	.197	5.0	.197	5.0
T2	1.036	26.3	1.388	35.3
T3	.689	17.5	.806	20.5

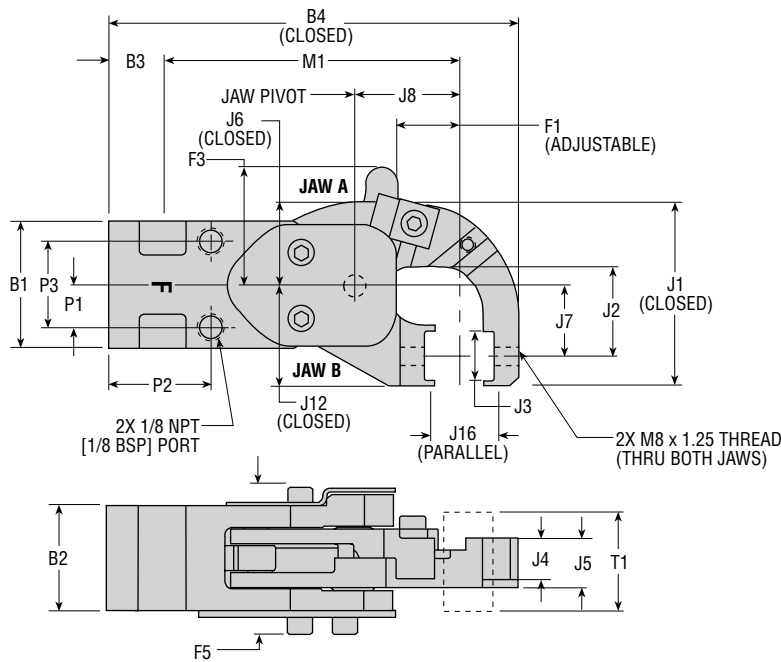


NOTE: Do not operate unit without stop block. Operating unit without stop block will damage the jaws.

All dimensions are reference only unless specifically tolerated.

DIMENSIONS: FLANGE JAW STYLE "F" - SIZE 2

GRM2xF-x-50xxx-22xxx

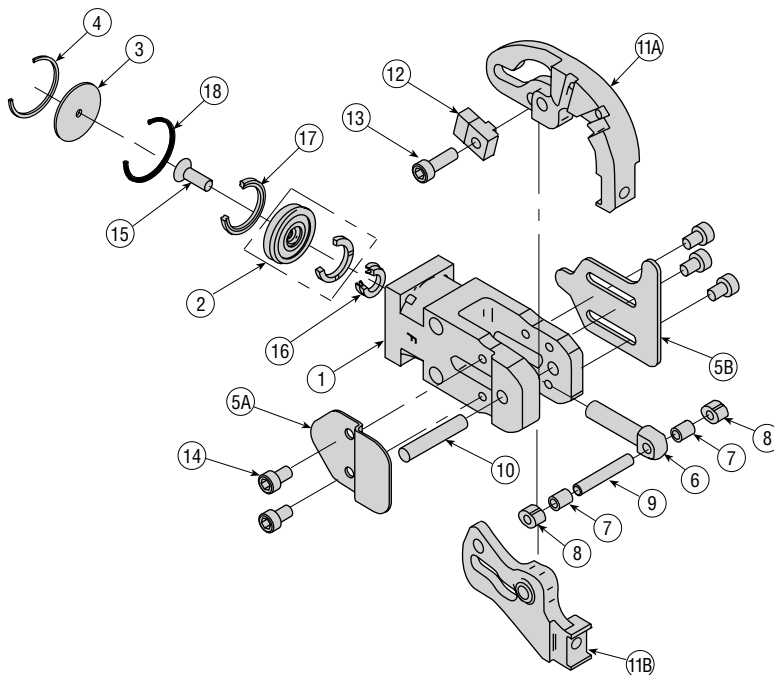


LETTER DIM	MODEL NUMBER	
	GRM2xF	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	6.358	161.5
F1 MAX	.965	24.5
F1 MIN	.453	11.5
F3	1.801	45.7
F5	2.291	58.2
J1 (CLOSED)	2.787	70.8
J2 (CLOSED)	1.350	34.3
J3*	.755	19.18
J4*	.630	16.00
J5	.768	19.5
J6 (CLOSED)	1.270	32.3
J7	1.063	27.0
J8	1.621	41.2
J12 (CLOSED)	1.517	38.5
J16 (PARALLEL)	1.064	27.0
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	4.613	117.2
T1**	1.530	38.9

* TOLERANCE FOR J3 & J4 = ± .003 [± .076]
 ** T1 IS THE LARGEST TIP AVAILABLE.

NOTE:
 SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER
		GRM2xF
1	BODY ASSEMBLY -imperial -metric	63972-11
		63972-12
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63974
5B	IMPACT PLATE	63952-01
6	ROD/JAW DRIVER	63950
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-009
10	PIVOT PIN	62176-02
11A	JAW (A)	63961-02
11B	JAW (B)	63960-02
12	STOP BLOCK	63962-02
13	STOP BLOCK SHCS	59104-118
14	IMPACT PLATE SHCS	59104-114
15	PISTON SFHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1

KIT DESCRIPTION	KIT NUMBER
	GRM2xF
IMPACT PLATE KIT	63967-03
JAW REBUILD KIT	62152-03
SEAL KIT	63965-02
FASTENER KIT	63966-02

NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: FLANGE JAW STYLE "F"

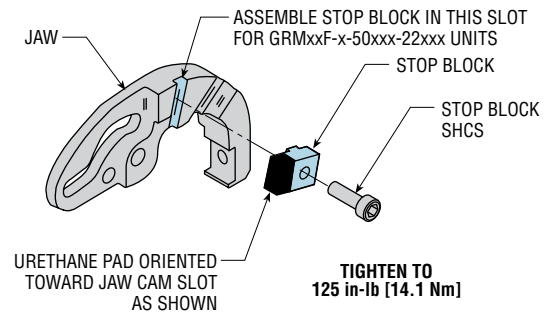
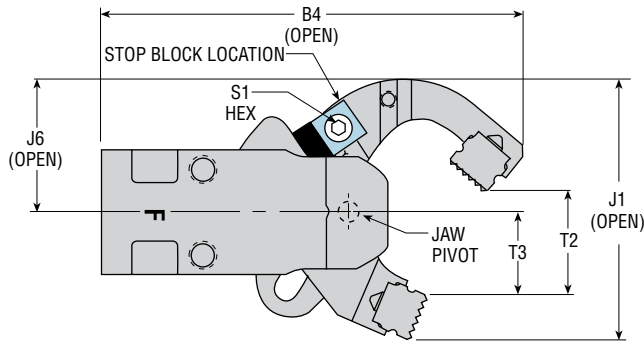
GRM2xF-x-50xxx-22xxx

ONE STOP BLOCK REQUIRED

50° Jaw A Rotates

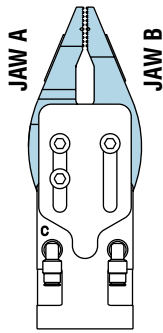
22° Jaw B Rotates

LETTER DIM	MODEL NUMBER GRM2xF	
	in	mm
B4 (OPEN)	6.532	165.9
J1 (OPEN)	3.974	100.9
J6 (OPEN)	2.047	52.0
S1	.197	5.0
T2	1.585	40.3
T3	1.237	31.4



NOTE: Do not operate unit without stop block. Operating unit without stop block will damage the jaws.

ORDERING DATA: GRM CLAMP JAW STYLES "N & P"



TO ORDER SPECIFY:

Size, Mounting, Jaw Style Option, Design No., Jaw Opening (A & B), and Fitting Option if desired.

GRM CLAMP JAW STYLE OPTION N & P ONLY	JAW A					
	00	NO	YES	YES	45	75
JAW B	22	YES	YES	NO	NO	
	45	YES	NO	YES	NO	
	75	YES	NO	NO	YES	

MATERIAL THICKNESS: 0 to 4.0 mm

JAW OPENING - JAW A

00 - 00° Opening
22 - 22.5° Opening
45 - 45° Opening
75 - 75° Opening

(See Note 1)

JAW OPENING - JAW B

00 - 00° Opening
22 - 22.5° Opening
45 - 45° Opening
75 - 75° Opening

(See Note 1)

JAW STYLE OPTION

N - Needlenose
P - Hammerhead

UNIT SIZE

2 - 32 mm

GRM

2

S

N

2

22

22

LAA

MOUNTING

T - Rear M6 Mounting Threads (Standard)
C - 90° Spherical Mounting Bracket
R - Non-Spherical Mounting Bracket
S - Spherical Mounting Bracket
W - Oversize Spherical Mounting Bracket
A - Rear Spherical Mounting Bracket
B - Oversize Rear Spherical Mtg Bracket
P - Rear Mounting Plate

DESIGN NO.

2 - Imperial
6 - Metric

(See Note 2)

PORT FITTINGS

BLANK - No Fitting
LAA - 90° Swivel Elbow, Metal
LBB - 90° Swivel Elbow, Plastic
LCC - 90° Swivel Elbow, Metal

GRM2xx

CLOSE OPEN

NOTES:

- 1) The 0° jaw rotates open no greater than 2.5° during the clamp cycle, opening the jaw .118 [3.0]. The jaw returns to the 0° position as the opposing jaw reaches full open or closed.
- 2) Metric units have metric ports and mounting.



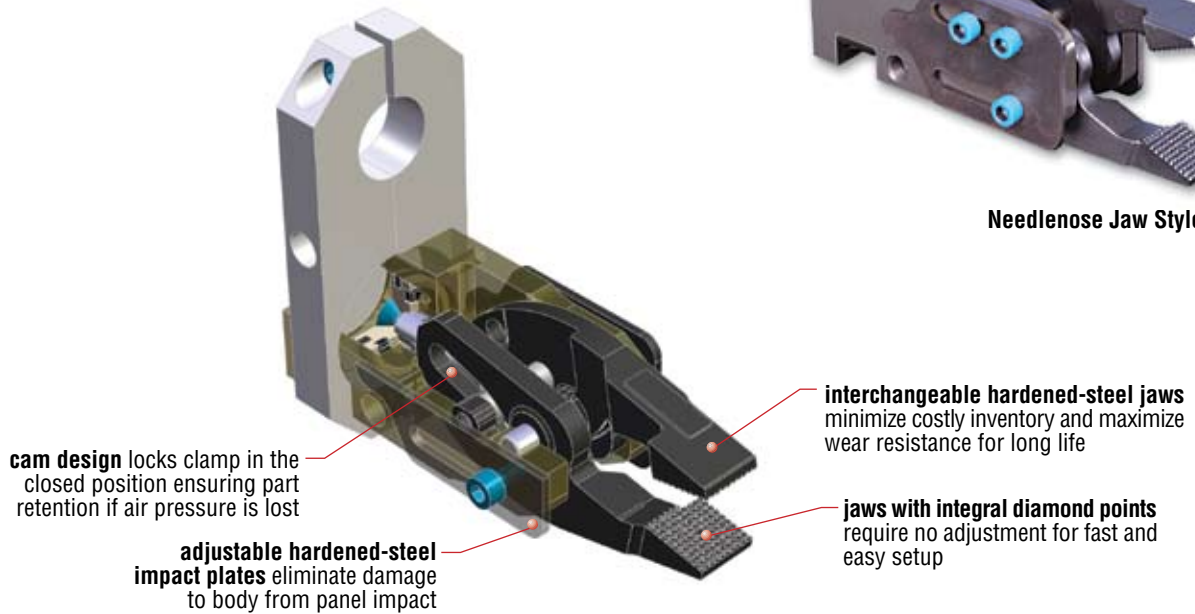
IDEAL FOR CLAMPING IN VERY TIGHT OPENINGS



Hammerhead Jaw Style P



Needlenose Jaw Style N



Major Benefits

- Small profile makes these clamps ideal for clamping in very tight openings.
- Available in two jaw styles and nine jaw openings to fit a wide range of clamping applications.
- Simple design, long life, high grip force, and fast field maintenance. Ideal for sheet metal handling.
- Compact envelope size with up to 225 lb [1000 N] of grip force for maximum flexibility and performance.
- Available with fixed or spherical mounting brackets for side or rear mounting.
- Fully field repairable in less than 10 minutes using metric hex wrenches.

Industry Uses

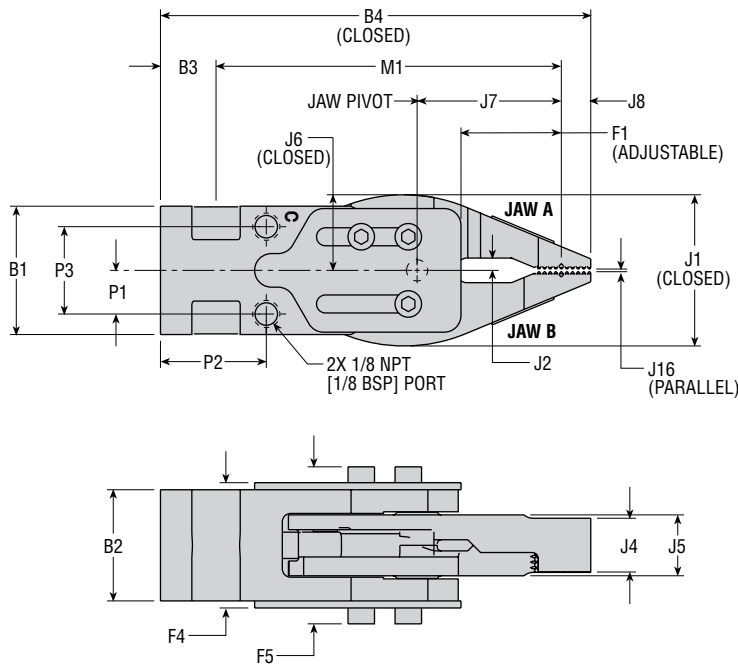
- Blank loading
- Limited space environments
- Automotive



Contact your local distributor for Clamp unit pricing.

DIMENSIONS: NEEDLENOSE JAW STYLE "N" - SIZE 2

GRM2xN-x-xx-xx

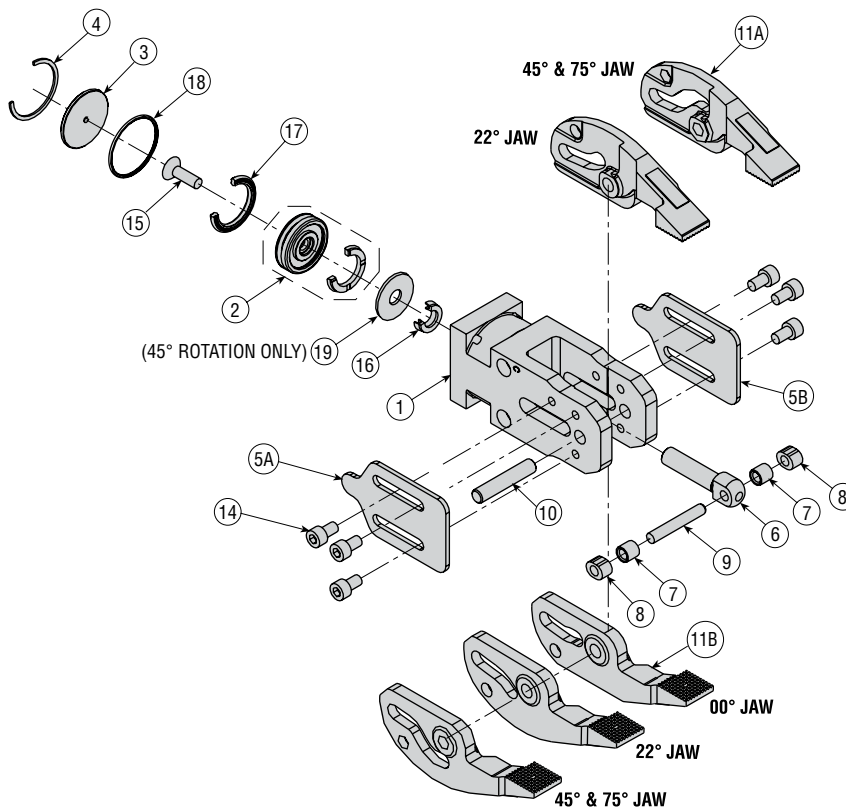


LETTER DIM	MODEL NUMBER	
	GRM2xN	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	6.403	162.6
F1 MAX	1.496	38.0
F1 MIN	.985	25.0
F4	1.864	47.3
F5	2.336	59.3
J1 (CLOSED) - 75-75	2.250	57.2
J1 (CLOSED) - 45-45	2.250	57.2
J1 (CLOSED) - 22-22	2.250	57.2
J1 (CLOSED) - 75-00	2.045	51.9
J1 (CLOSED) - 45-00	2.045	51.9
J1 (CLOSED) - 22-00	2.045	51.9
J2 (CLOSED)	.183	4.6
J4	.800	20.3
J5	.906	23.0
J6	1.125	28.6
J7	2.146	54.5
J8	.438	11.1
J16 (PARALLEL)	.040	1.0
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	5.138	130.5

NOTES:

- 1) SEE MOUNTING BRACKET PAGES.
- 2) THE 0° JAW ROTATES 2.5° DURING THE CLAMP CYCLE, OPENING THE END OF THE JAW .118 [3.0]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER	
		GRM2xN	
1	BODY ASSEMBLY	imperial	63947-11
		metric	63947-12
2	PISTON & SHOCK PAD		63949
3	BORE PLUG		61467
4	RETAINING RING		57618-034
5A	IMPACT PLATE		63952-00
5B	IMPACT PLATE		63952-00
6	ROD/JAW DRIVER		63950
7	JAW BUSHING		62097
8	SLIDER BUSHING		62099-01
9	ROD/JAW DRIVER PIN		52416-009
10	PIVOT PIN		62176-01
11A	JAW (A) 45° & 75°		65243-02
	JAW (A) 22°		65214-02
11B	JAW (B) 45° & 75°		65243-02
	JAW (B) 22°		65214-02
	JAW (B) 00°		65213-02
14	IMPACT PLATE SHCS		59104-114
15	PISTON SFHCS		59104-600
16	ROD SEAL		77635-009
17	PISTON SEAL		74042-008
18	BORE PLUG SEAL		3642-027-1
19	STROKE REDUCING BUSHING		65420-002

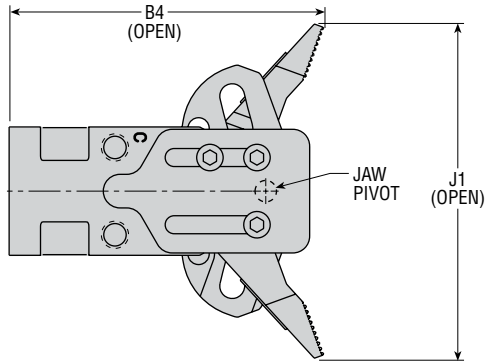
KIT DESCRIPTION	KIT NUMBER	
	GRM2xN	
IMPACT PLATE KIT	63967-04	
JAW REBUILD KIT	62152-01	
SEAL KIT	63965-02	
FASTENER KIT	63966-02	

NOTE:
SEE MOUNTING BRACKET PAGES.

JAW ROTATION DIMENSIONS: NEEDLENOSE JAW STYLE "N"

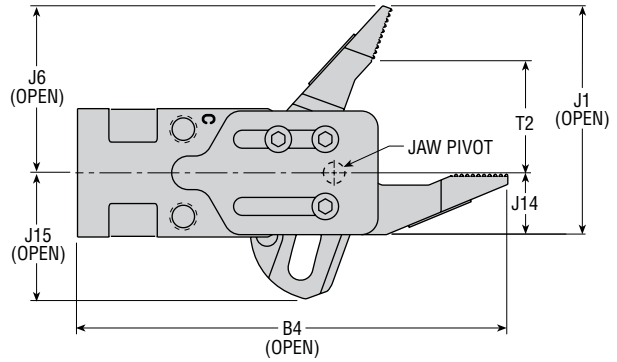
GRM2xN-x-75-75

LETTER DIM	MODEL NUMBER GRM2xN	
	in	mm
B4	4.681	118.9
J1	4.970	126.2



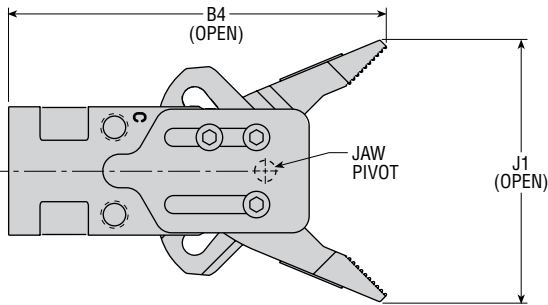
GRM2xN-x-75-00

LETTER DIM	MODEL NUMBER GRM2xN	
	in	mm
B4	6.403	162.6
J1	3.405	86.5
J6	2.485	63.1
J14	.920	23.4
J15	1.876	47.7
T2	1.722	43.7



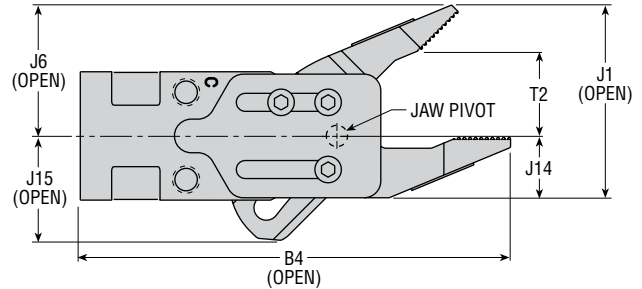
GRM2xN-x-45-45

LETTER DIM	MODEL NUMBER GRM2xN	
	in	mm
B4	5.625	142.9
J1	3.889	98.9



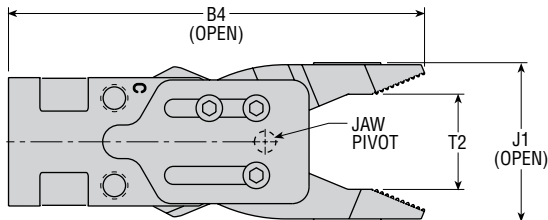
GRM2xN-x-45-00

LETTER DIM	MODEL NUMBER GRM2xN	
	in	mm
B4	6.403	162.6
J1	2.865	72.8
J6	1.945	49.4
J14	.920	23.4
J15	1.553	39.4
T2	1.310	33.3



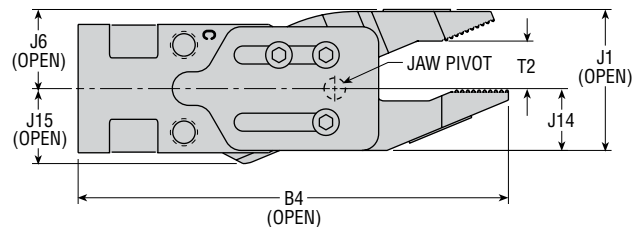
GRM2xN-x-22-22

LETTER DIM	MODEL NUMBER GRM2xN	
	in	mm
B4	6.191	157.3
J1	2.355	59.8
T2	1.418	36.0



GRM2xN-x-22-00

LETTER DIM	MODEL NUMBER GRM2xN	
	in	mm
B4	6.403	162.6
J1	2.097	53.3
J6	1.177	29.9
J14	.920	23.4
J15	1.117	28.4
T2	.727	18.5

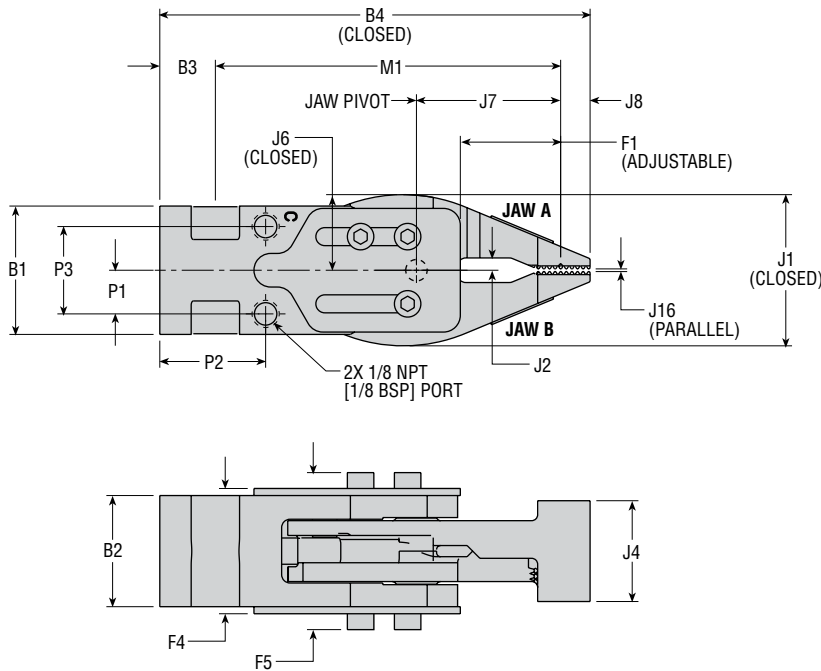


Needlenose/
Hammerhead

All dimensions are reference only unless specifically tolerated.

DIMENSIONS: HAMMERHEAD JAW STYLE "P" - SIZE 2

GRM2xP-x-xx-xx

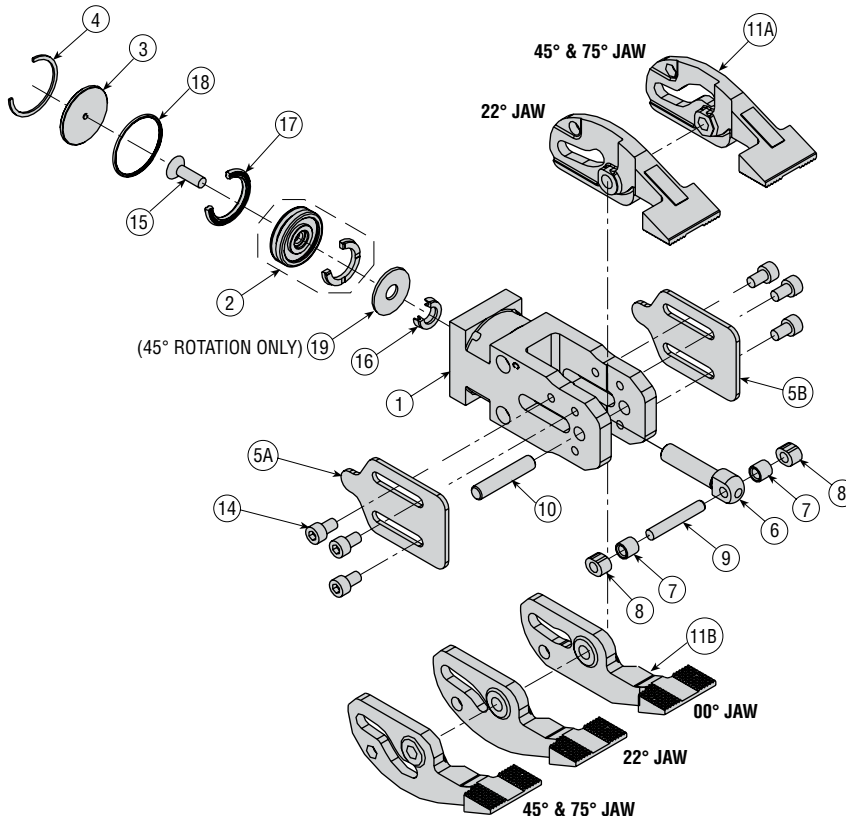


LETTER DIM	MODEL NUMBER GRM2xP	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	6.403	162.6
F1 MAX	1.496	38.0
F1 MIN	.985	25.0
F4	1.864	47.3
F5	2.336	59.3
J1 (CLOSED) - 75-75	2.250	57.2
J1 (CLOSED) - 45-45	2.250	57.2
J1 (CLOSED) - 22-22	2.250	57.2
J1 (CLOSED) - 75-00	2.045	51.9
J1 (CLOSED) - 45-00	2.045	51.9
J1 (CLOSED) - 22-00	2.045	51.9
J2 (CLOSED)	.183	4.6
J4	1.500	38.1
J6	1.125	28.6
J7	2.146	54.5
J8	.438	11.1
J16 (PARALLEL)	.040	1.0
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	5.138	130.5

NOTES:

- 1) SEE MOUNTING BRACKET PAGES.
- 2) THE 0° JAW ROTATES 2.5° DURING THE CLAMP CYCLE, OPENING THE END OF THE JAW .118 [3.0]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER	
		GRM2xP	
1	BODY ASSEMBLY	imperial metric	63947-11 63947-12
2	PISTON & SHOCK PAD		63949
3	BORE PLUG		61467
4	RETAINING RING		57618-034
5A	IMPACT PLATE		63952-00
5B	IMPACT PLATE		63952-00
6	ROD/JAW DRIVER		63950
7	JAW BUSHING		62097
8	SLIDER BUSHING		62099-01
9	ROD/JAW DRIVER PIN		52416-009
10	PIVOT PIN		62176-01
11A	JAW (A) 45° & 75°		65244-02
	JAW (A) 22°		65216-02
11B	JAW (B) 45° & 75°		65244-02
	JAW (B) 22°		65216-02
	JAW (B) 00°		65215-02
14	IMPACT PLATE SHCS		59104-114
15	PISTON SFHCS		59104-600
16	ROD SEAL		77635-009
17	PISTON SEAL		74042-008
18	BORE PLUG SEAL		3642-027-1
19	STROKE REDUCING BUSHING		65420-002

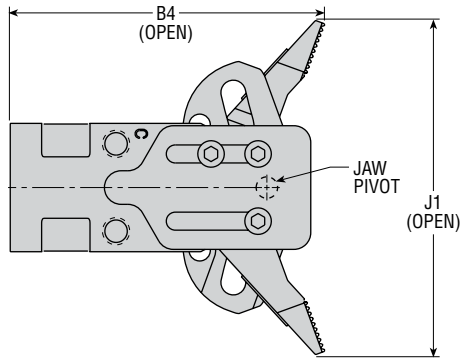
KIT DESCRIPTION	KIT NUMBER	
	GRM2xP	
IMPACT PLATE KIT	63967-04	
JAW REBUILD KIT	62152-01	
SEAL KIT	63965-02	
FASTENER KIT	63966-02	

NOTE:
SEE MOUNTING BRACKET PAGES.

JAW ROTATION DIMENSIONS: HAMMERHEAD JAW STYLE "P"

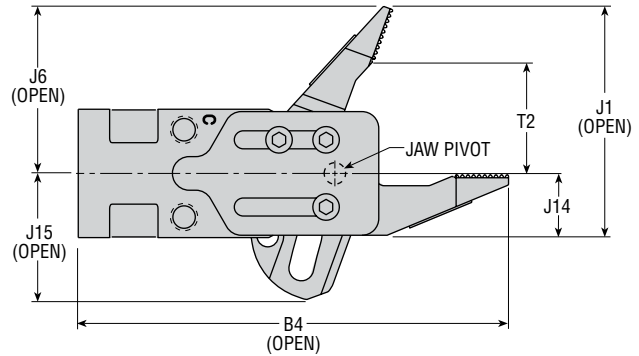
GRM2xP-x-75-75

LETTER DIM	MODEL NUMBER GRM2xP	
	in	mm
B4	4.681	118.9
J1	4.970	126.2



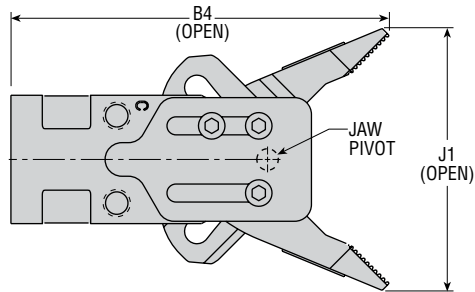
GRM2xP-x-75-00

LETTER DIM	MODEL NUMBER GRM2xP	
	in	mm
B4	6.403	162.6
J1	3.405	86.5
J6	2.485	63.1
J14	.920	23.4
J15	1.876	47.7
T2	1.722	43.7



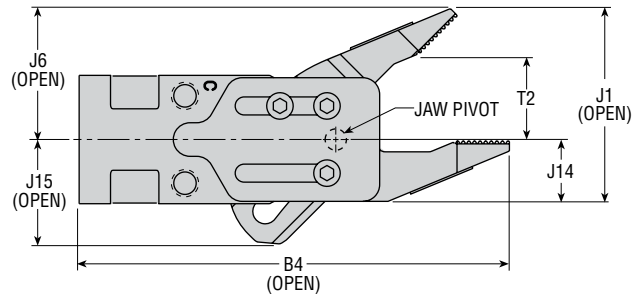
GRM2xP-x-45-45

LETTER DIM	MODEL NUMBER GRM2xP	
	in	mm
B4	5.625	142.9
J1	3.889	98.8



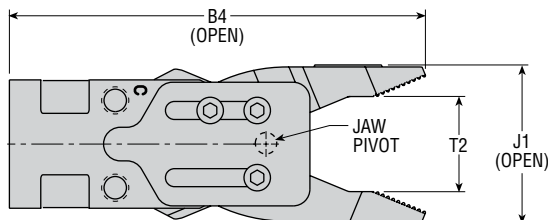
GRM2xP-x-45-00

LETTER DIM	MODEL NUMBER GRM2xP	
	in	mm
B4	6.403	162.6
J1	2.865	72.8
J6	1.945	49.4
J14	.920	23.4
J15	1.553	39.4
T2	1.310	33.3



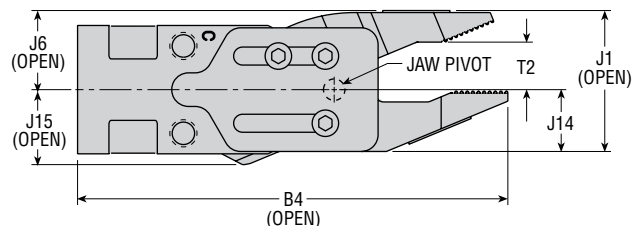
GRM2xP-x-22-22

LETTER DIM	MODEL NUMBER GRM2xP	
	in	mm
B4	6.191	157.3
J1	2.355	59.8
T2	1.418	36.0



GRM2xP-x-22-00

LETTER DIM	MODEL NUMBER GRM2xP	
	in	mm
B4	6.403	162.6
J1	2.097	53.3
J6	1.177	29.9
J14	.920	23.4
J15	1.117	28.4
T2	.727	18.5



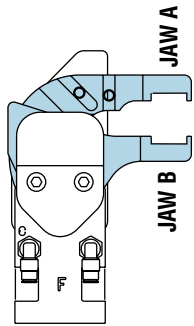
Needlenose/
Hammerhead

All dimensions are reference only unless specifically tolerated.

ORDERING DATA: GRM CLAMP HOOK JAW STYLE "K"

TO ORDER SPECIFY:
 Size, Mounting, Jaw Style
 Option, Design No., Jaw
 Opening (A & B), Jaw Tip
 Option, and Fitting Option
 if desired.

GRM CLAMP JAW STYLE OPTION		JAW A	
K STYLE ONLY		25	50
00	NO	YES	NO
20	YES	NO	YES
40	NO	YES	NO



JAW TIP OPTIONS - JAW B			
Color	Material Thickness		
	0 to 1.50 mm	1.51 to 3 mm	3.01 to 4.01 to 5 mm
Black	Blank	Silver	Gold
No tip	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCG
Double Cone Point	DCB	DCS	DCG
Single Diamond Point	SDB	SDS	SDG
Double Diamond Point	ddb	dds	ddg
Single Urethane Pad	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB

JAW OPENING - JAW B
00 - 00° Opening
20 - 20° Opening
40 - 40° Opening
(See Note 1)

JAW OPENING - JAW A
25 - 25° Opening
50 - 50° Opening

JAW STYLE OPTION
K - "Hook" Jaw

UNIT SIZE
2 - 32 mm (Short)



MOUNTING	
T - Rear M6 Mounting Threads (Standard)	
C - 90° Spherical Mounting Bracket	
R - Non-Spherical Mounting Bracket	
S - Spherical Mounting Bracket	
W - Oversize Spherical Mounting Bracket	
A - Rear Spherical Mounting Bracket	
B - Oversize Rear Spherical Mtg Bracket	
P - Rear Mounting Plate	

DESIGN NO.
2 - Imperial
6 - Metric
(See Note 2)

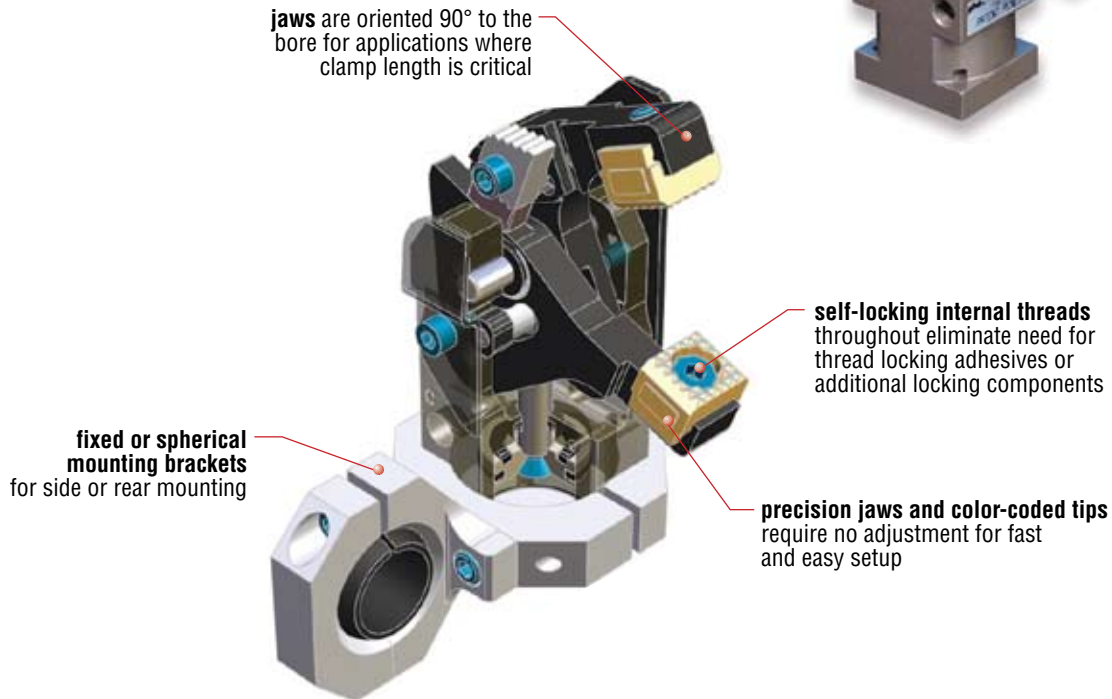
JAW TIP OPTIONS - JAW A			
Color	Material Thickness		
	0 to 1.50 mm	1.51 to 3 mm	3.01 to 4.01 to 5 mm
Black	Blank	Silver	Gold
No tip	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCG
Double Cone Point	DCB	DCS	DCG
Single Diamond Point	SDB	SDS	SDG
Double Diamond Point	ddb	dds	ddg
Single Urethane Pad	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB

PORT FITTINGS	
BLANK	No Fitting
LAA	90° Swivel Elbow, Metal
LBB	90° Swivel Elbow, Plastic
LCC	90° Swivel Elbow, Metal

- NOTES:**
- 1) The 0° jaw rotates open no greater than 2° during the clamp cycle, opening the jaw .098 [2.5]. The jaw returns to the 0° position as the opposing jaw reaches full open or closed.
 - 2) Metric units have metric ports and mounting.



IDEAL FOR CLAMPING IN APPLICATIONS WHERE LENGTH IS CRITICAL



Major Benefits

- Short overall length makes this clamp ideal for clamping in applications where length is critical.
- Available in one jaw style and three openings.
- Simple design, long life, high grip force, and fast field maintenance. Ideal for sheet metal handling.
- Compact envelope size with up to 225 lb [1000 N] of grip force for maximum flexibility and performance.
- Jaws mechanically lock in closed position ensuring part retention even when air pressure is removed.
- Adjustable hardened-steel impact plate eliminates damage from panel impact.
- Fully field repairable in less than 10 minutes using metric hex wrenches.

Industry Uses

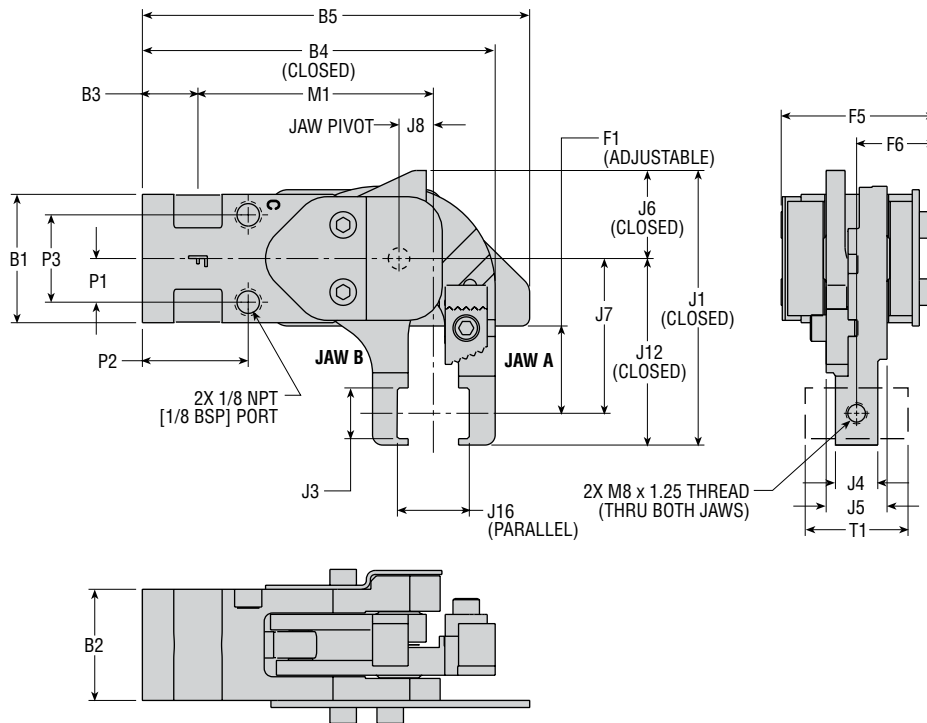
- Limited space environments
- Automotive
- Assembly
- General industrial automation



Contact your local distributor for Clamp unit pricing.

DIMENSIONS: HOOK JAW STYLE "K" - SIZE 2

GRM2xK-x-xxxxx-00xxx



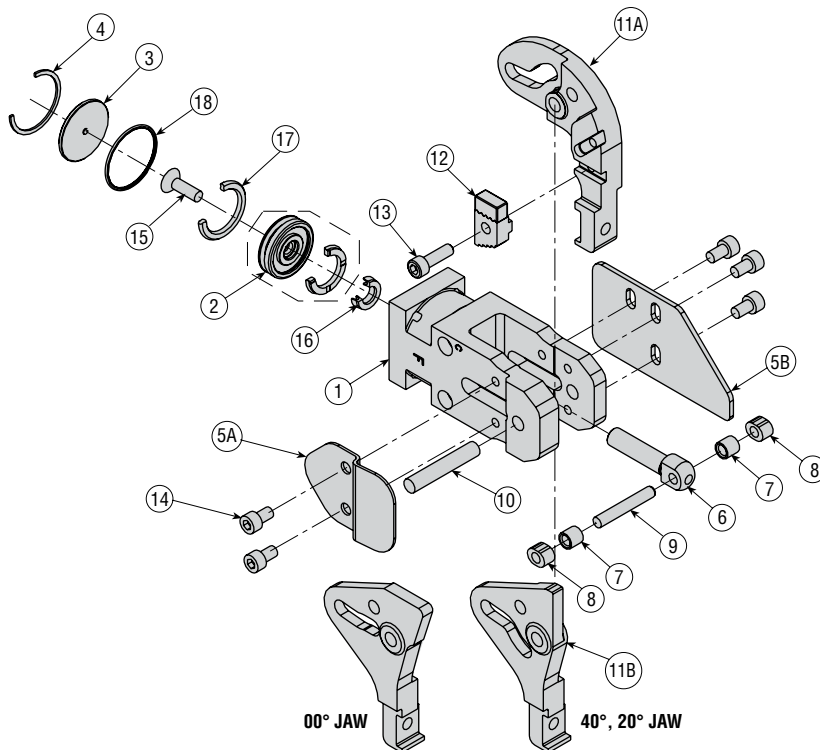
LETTER DIM	MODEL NUMBER GRM2xK	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	5.250	133.4
B5	5.763	146.4
F1 MAX	1.004	25.5
F1 MIN	.788	20.0
F5	2.291	58.2
F6	1.169	29.7
J1 (CLOSED)	4.086	103.8
J3*	.755	19.18
J4*	.630	16.00
J5	.906	23.0
J6 (CLOSED)	1.310	33.3
J7	2.303	58.5
J8	.511	13.0
J12 (CLOSED)	2.776	70.5
J16 (PARALLEL)	1.070	27.2
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	3.504	89.0
T1**	1.530	38.9

* TOLERANCE FOR J3 & J4 = ± .003 [± .076]
 ** T1 IS THE LARGEST TIP AVAILABLE.

NOTES:

- 1) SEE TIP DIMENSIONS AND MOUNTING BRACKET PAGES.
- 2) THE 0° JAW ROTATES 2° DURING THE CLAMP CYCLE, OPENING THE END OF THE JAW .098 [2.5]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER
1	BODY ASSEMBLY imperial metric	63972-11 63972-12
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63974
5B	IMPACT PLATE	64659-01
6	ROD/JAW DRIVER	63950
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-009
10	PIVOT PIN	62176-02
11A	JAW (A)	64654-01
11B	JAW (B) 0° ROTATION	64656-01
	JAW (B) 40°, 20° ROTATION	64655-01
12	STOP BLOCK 50° x 00°	63962-03
	50° x 40°, 25° x 20°	63962-02
13	STOP BLOCK SHCS	59104-118
14	IMPACT PLATE SHCS	59104-114
15	PISTON SFHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1

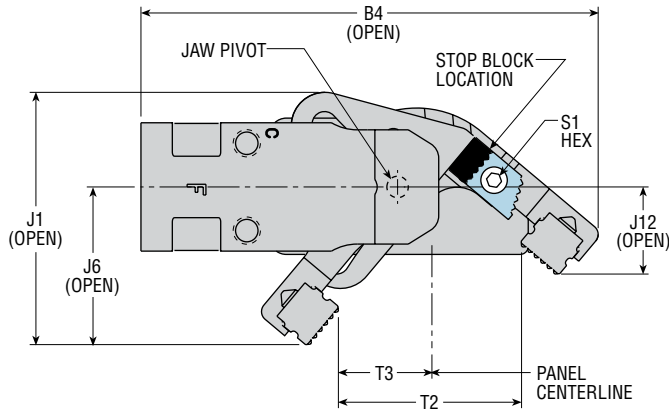
KIT DESCRIPTION	KIT NUMBER
	GRM2xK
IMPACT PLATE KIT	63967-06
JAW REBUILD KIT	62152-03
SEAL KIT	63965-02
FASTENER KIT	63966-02

NOTE:
 SEE MOUNTING BRACKET PAGE.

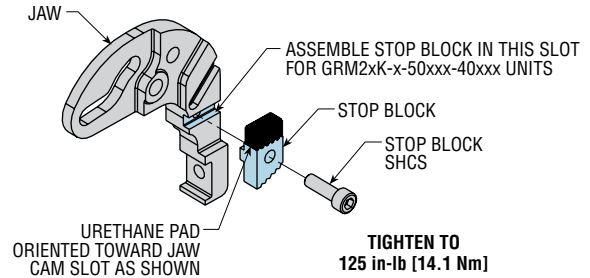
JAW ROTATION DIMENSIONS: HOOK JAW STYLE "K"

GRM2xK-x-50xxx-40xxx

ONE STOP BLOCK REQUIRED

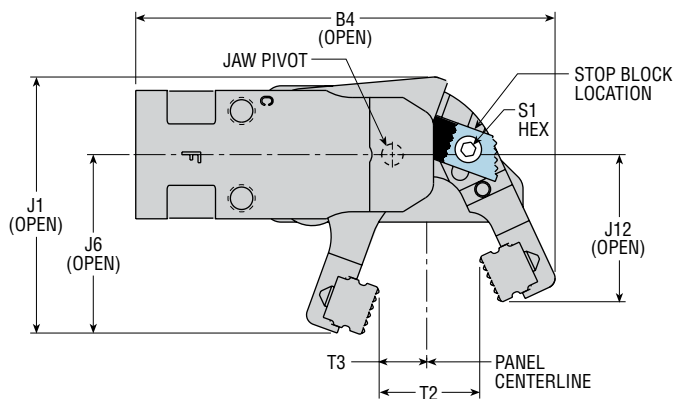


LETTER DIM	MODEL NUMBER	
	GRM2xK	
	in	mm
B4 (OPEN)	6.804	172.8
J1 (OPEN)	3.754	95.4
J6 (OPEN)	2.346	59.6
J12 (OPEN)	1.296	32.9
S1	.197	5.0
T2	2.726	69.2
T3	1.392	35.4

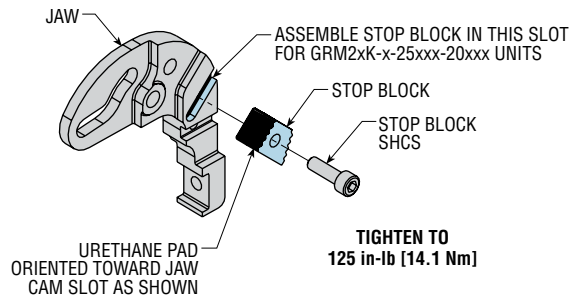


GRM2xK-x-25xxx-20xxx

ONE STOP BLOCK REQUIRED

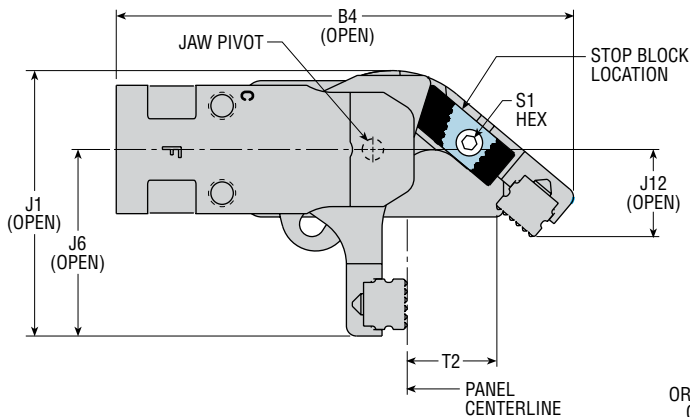


LETTER DIM	MODEL NUMBER	
	GRM2xK	
	in	mm
B4 (OPEN)	6.240	158.5
J1 (OPEN)	3.810	96.8
J6 (OPEN)	2.655	67.4
J12 (OPEN)	2.189	55.6
S1	.197	5.0
T2	1.497	38.0
T3	.708	18.0

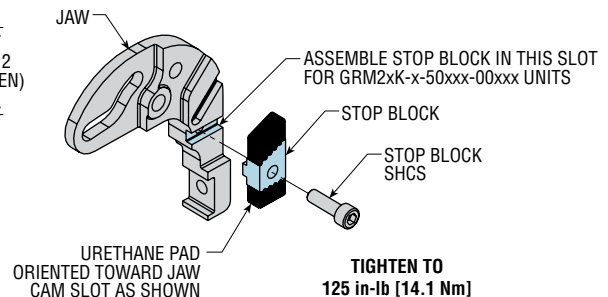


GRM2xK-x-50xxx-00xxx

ONE STOP BLOCK REQUIRED



LETTER DIM	MODEL NUMBER	
	GRM2xK	
	in	mm
B4 (OPEN)	6.804	172.8
J1 (OPEN)	3.950	100.3
J6 (OPEN)	2.776	70.5
J12 (OPEN)	1.296	32.9
S1	.197	5.0
T2	1.334	33.9



All dimensions are reference only unless specifically tolerated.

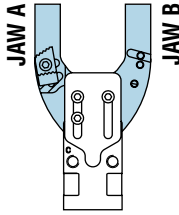
ORDERING DATA: GRM CLAMP TOOLABLE JAW STYLE "G"

TO ORDER SPECIFY:

Size, Mounting, Jaw Style Option, Design No., Jaw Opening (A & B), and Fitting Option if desired.

GRM CLAMP SIZE 2 JAW STYLE OPTION G ONLY	JAW A			
	00	22	40	70
JAW B	00	NO	YES	NO
	22	NO	YES	NO
	40	YES	NO	YES
	70	NO	NO	NO

GRM CLAMP SIZE 4 JAW STYLE OPTION G ONLY	JAW A			
	00	22	40	70
JAW B	00	NO	NO	YES
	22	NO	YES	NO
	40	YES	NO	YES
	70	YES	NO	NO



JAW OPENING - JAW A	JAW OPENING - JAW B
00 - 00° Opening	00 - 00° Opening
22 - 22.5° Opening	22 - 22.5° Opening
40 - 40° Opening	40 - 40° Opening
70 - 70° Opening	70 - 70° Opening

(See Notes 1 & 2)

LAA

PORT FITTINGS
 BLANK - No Fitting
 LAA - 90° Swivel Elbow, Metal
 LBB - 90° Swivel Elbow, Plastic
 LCC - 90° Swivel Elbow, Metal

- 40

JAW TIP OPTIONS (JAWS A & B)
 Blank - No Tip Available

- 40

DESIGN NO.
 2 - Imperial
 6 - Metric
 (See Note 3)

- 2

JAW STYLE OPTION
 G - Toolable Jaw

G

S

2

GRM

MOUNTING

T - Rear Mounting Threads (Standard)
C - 90° Spherical Mounting Bracket
R - Non-Spherical Mounting Bracket
S - Spherical Mounting Bracket
W- Oversize Spherical Mounting Bracket
A - Rear Spherical Mounting Bracket
B - Oversize Rear Spherical Mtg Bracket
P - Rear Mounting Plate

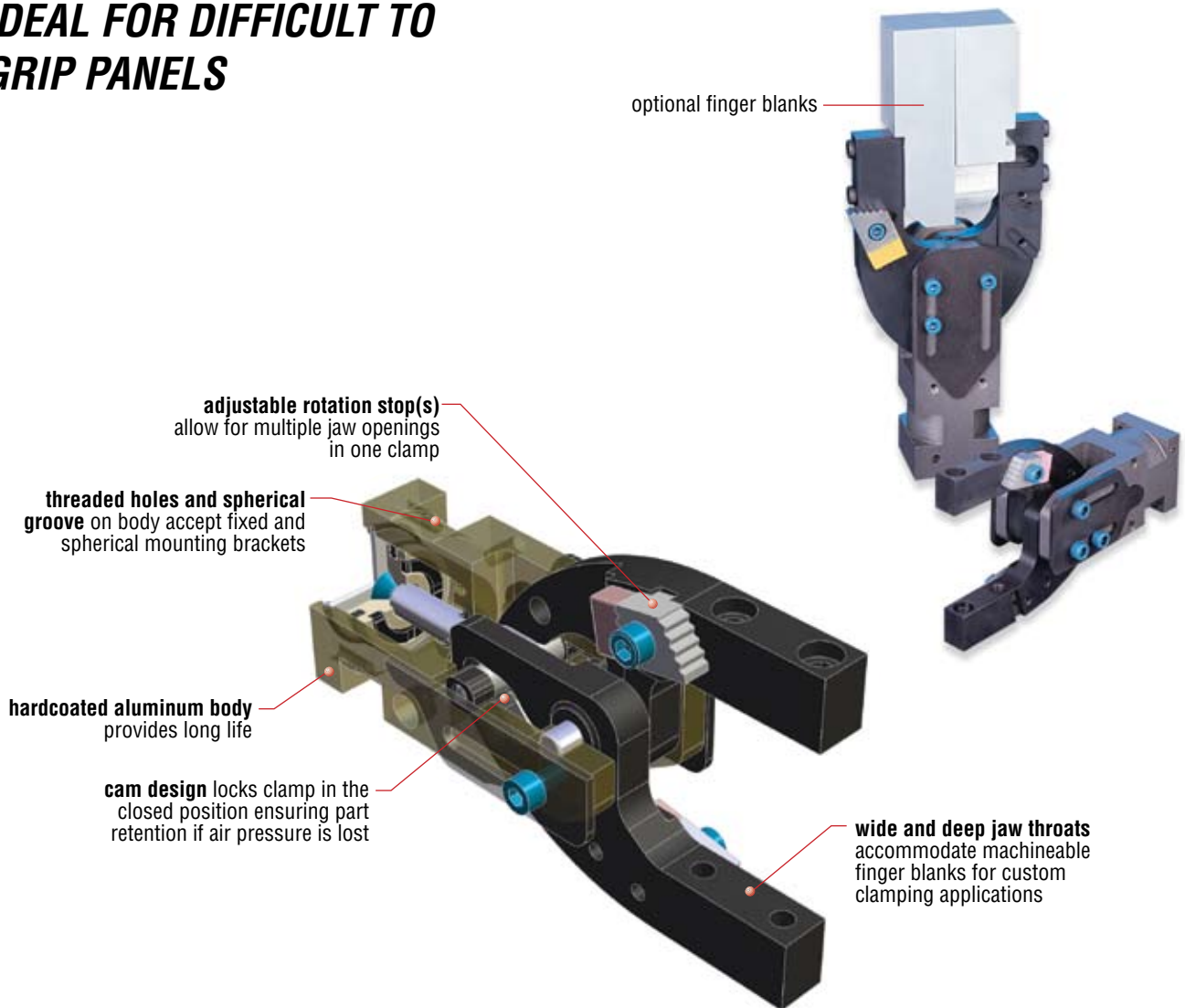
FINGER BLANKS

MODEL NUMBER	JAW ROTATIONS	FINGER BLANK KIT NUMBER
GRM2x	70-70 All Other Rot.	N/A 65225-02 65226-01
GRM4x	70-70 All Other Rot.	65226-02

- NOTES:**
- 1) The 0° jaw rotates open no greater than 3° during the clamp cycle. The 0° jaw returns to 0° as the opposing jaw reaches full open or closed position.
 - 2) 70° jaw rotation not available on size 2 unit.
 - 3) Metric units have metric ports and mounting.



IDEAL FOR DIFFICULT TO GRIP PANELS



Major Benefits

- Wide jaw opening and threaded holes to mount custom tooling make this clamp ideal for difficult to grip panels.
- Available with machineable aluminum finger blanks for ease of tooling.
- Available in two sizes, one jaw style, and up to seven opening combinations.
- Simple design, long life, high grip force, and fast field maintenance. Ideal for sheet metal handling.
- Compact envelope size with grip forces up to 225 lb [1000 N] for size 2 and 500 lb [2224 N] for size 4, providing maximum flexibility and performance.
- Two adjustable hardened-steel impact plates eliminate damage from panel impact.
- Fully field repairable in less than 10 minutes.

Industry Uses

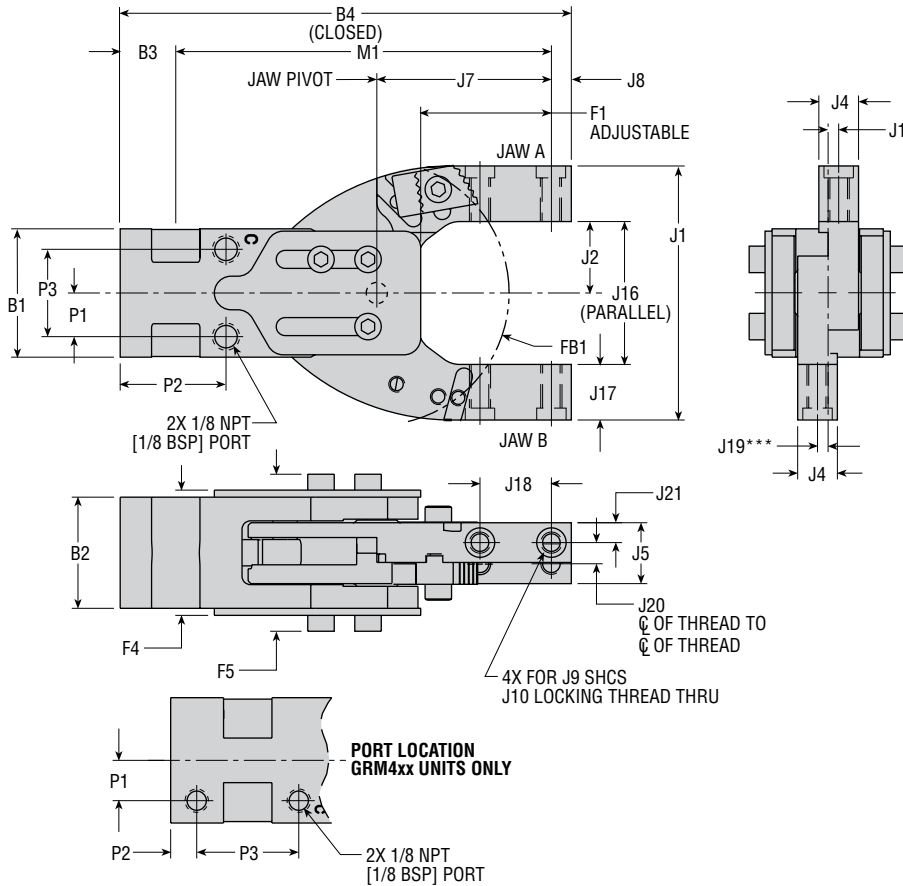
- Fabrication shops
- Automotive
- Material handling
- General industrial automation



Contact your local distributor for Clamp unit pricing.

DIMENSIONS: TOOLABLE JAW STYLE "G" - SIZES 2 & 4

GRM2xG-x-xx-xx
GRM4xG-x-xx-xx

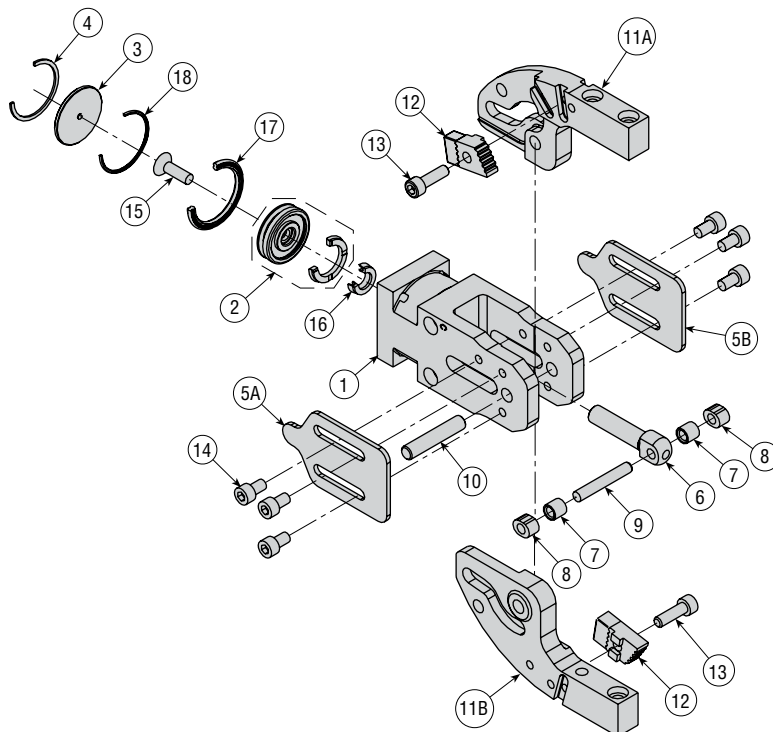


LETTER DIM	MODEL NUMBER			
	GRM2xG		GRM4xG	
	in	mm	in	mm
B1	1.910	48.5	2.176	55.3
B2	1.654	42.0	1.980	50.3
B3	.827	21.0	1.338	34.0
B4 (CLOSED)	6.713	170.5	8.996	228.5
F1 MAX	1.948	49.5	2.461	62.5
F1 MIN	1.437	36.5	1.621	41.2
F4	1.864	47.3	2.190	55.6
F5	2.336	59.3	2.662	67.6
J1 (PARALLEL)	3.780	96.0	4.724	120.0
J2 (PARALLEL)	1.063	27.0	1.250	31.8
J4*	.591	15.01	.660	16.76
J5	.906	23.0	1.136	28.9
J7	2.598	66.0	3.150	80.0
J8	.296	7.5	.354	9.0
J9	1/4	M6	5/16	M8
J10	M8 x 1.25		M10 x 1.5	
J16 (PARALLEL)	2.126	54.0	2.500	63.5
J17	.827	21.0	1.112	28.2
J18	1.063	27.0	1.181	30.0
J19	.158	4.0	.238	6.0
J20	.316	8.0	.476	12.1
J21	.295	7.5	.330	8.4
P1	.650	16.5	.388	9.9
P2	1.575	40.0	.452	11.5
P3	1.300	33.0	1.772	45.0
M1	5.590	142.0	7.304	185.5
FB1**	—	—	2.677	68.0

* TOLERANCE FOR J4 DIM = ± .003 [± .076]
** FB1 IS A CLEARANCE FOR JAWS TO PASS EACH OTHER FOR 70° x 70° JAW ROTATIONS ONLY
*** J19 DIMENSION IS ϕ OF CLAMP TO ϕ OF THREAD

NOTE: SEE MOUNTING BRACKET PAGE.

PARTS BREAKDOWN



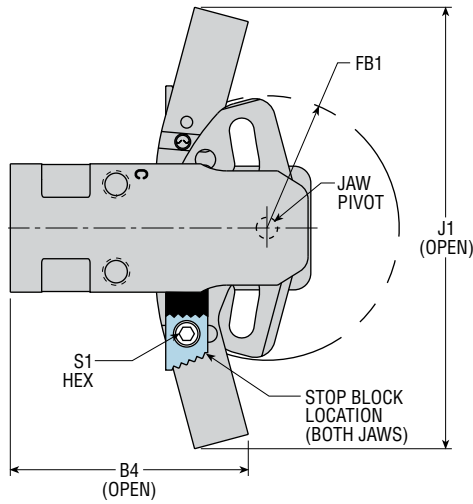
KEY	DESCRIPTION		PART NUMBER	
			GRM2xG	GRM4xG
1	BODY ASSEMBLY	imperial metric	63947-11 63947-12	64627-11 63927-12
2	PISTON & SHOCK PAD		63949	64631
3	BORE PLUG		61467	61468
4	RETAINING RING		57618-034	57618-042
5A	IMPACT PLATE		63952-00	64636-00
5B	IMPACT PLATE		63952-00	64636-00
6	ROD/JAW DRIVER		63950	63969
7	JAW BUSHING		62097	62098
8	SLIDER BUSHING		62099-01	62100
9	ROD/JAW DRIVER PIN		52416-009	52416-027
10	PIVOT PIN		62176-01	62177-01
11A	JAW (A)		63989-01	65217-01
11B	JAW (B)		63989-01	65217-01
12	STOP BLOCK		63962-02	64635-02
13	STOP BLOCK SHCS		59104-118	59104-118
14	IMPACT PLATE SHCS		59104-114	59104-114
15	PISTON SFHCS		59104-600	62221-001
16	ROD SEAL		77635-009	78610-006
17	PISTON SEAL		74042-008	74042-009
18	BORE PLUG SEAL		3642-027-1	3642-028-1

KIT DESCRIPTION	KIT NUMBER	
	GRM2xG	GRM4xG
IMPACT PLATE KIT	63967-04	64638-04
JAW REBUILD KIT	62152-01	62152-02
SEAL KIT	63965-02	63965-04
FASTENER KIT	63966-02	63966-04

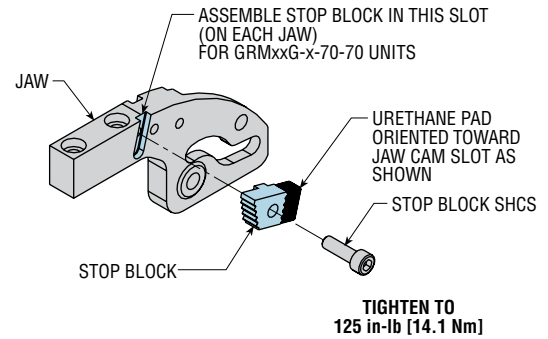
Toolable
Jaw

JAW ROTATION DIMENSIONS: TOOLABLE JAW STYLE "G"

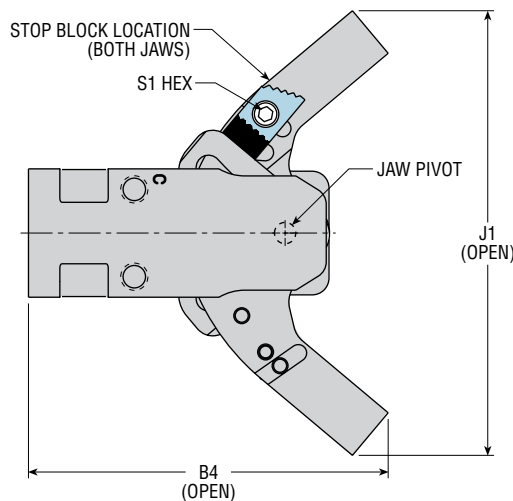
GRM4xG-x-70-70 TWO STOP BLOCKS REQUIRED



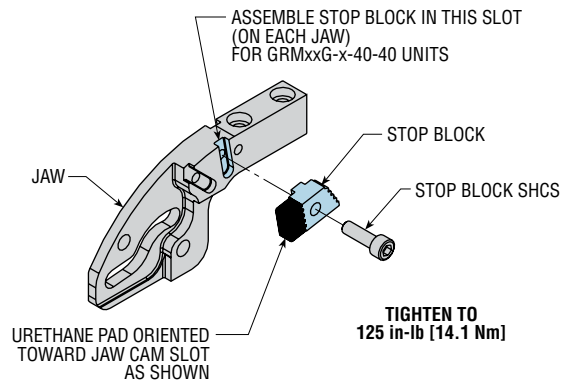
LETTER DIM	MODEL NUMBER	
	GRM4xG	
	in	mm
B4 (OPEN)	5.516	140.1
J1 (OPEN)	8.201	208.3
S1	.197	5.0
FB1	2.677	68.0



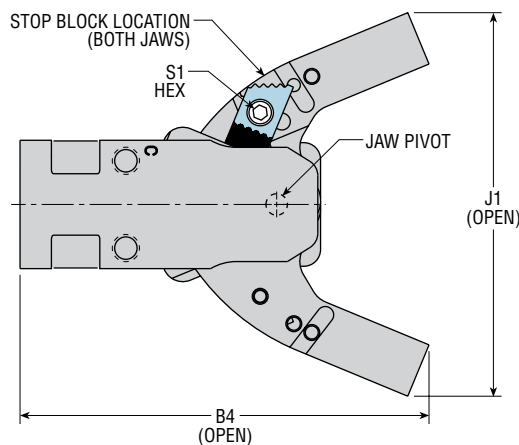
GRM2xG-x-40-40 GRM4xG-x-40-40 TWO STOP BLOCKS REQUIRED



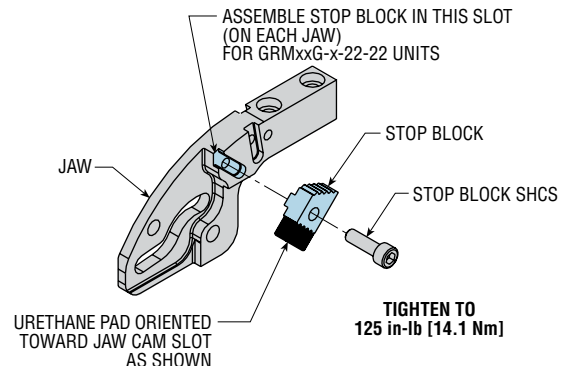
LETTER DIM	MODEL NUMBER			
	GRM2xG		GRM4xG	
	in	mm	in	mm
B4 (OPEN)	5.353	136.0	7.372	187.2
J1 (OPEN)	6.616	168.0	8.126	206.4
S1	.197	5.0	.197	5.0



GRM2xG-x-22-22 GRM4xG-x-22-22 TWO STOP BLOCKS REQUIRED



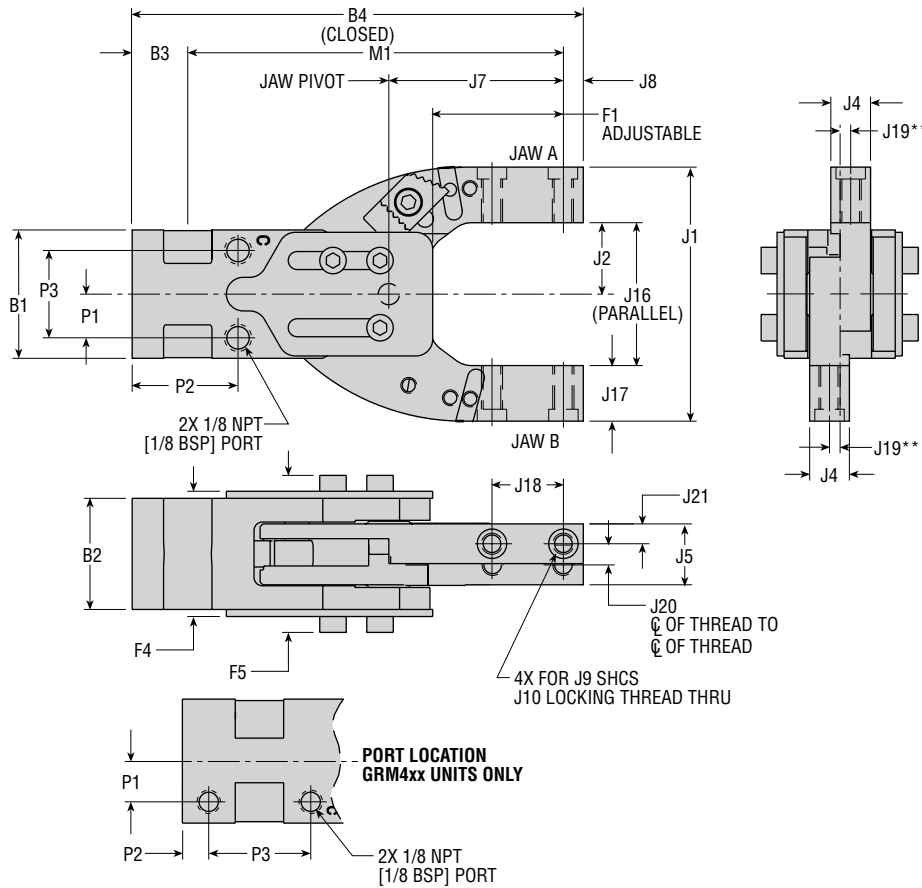
LETTER DIM	MODEL NUMBER			
	GRM2xG		GRM4xG	
	in	mm	in	mm
B4 (OPEN)	6.086	154.6	8.251	209.6
J1 (OPEN)	5.707	145.0	7.046	179.0
S1	.197	5.0	.197	5.0



All dimensions are reference only unless specifically tolerated.

DIMENSIONS: TOOLABLE JAW STYLE "G" - SIZES 2 & 4

GRM2xG-x-xx-00
GRM4xG-x-xx-00

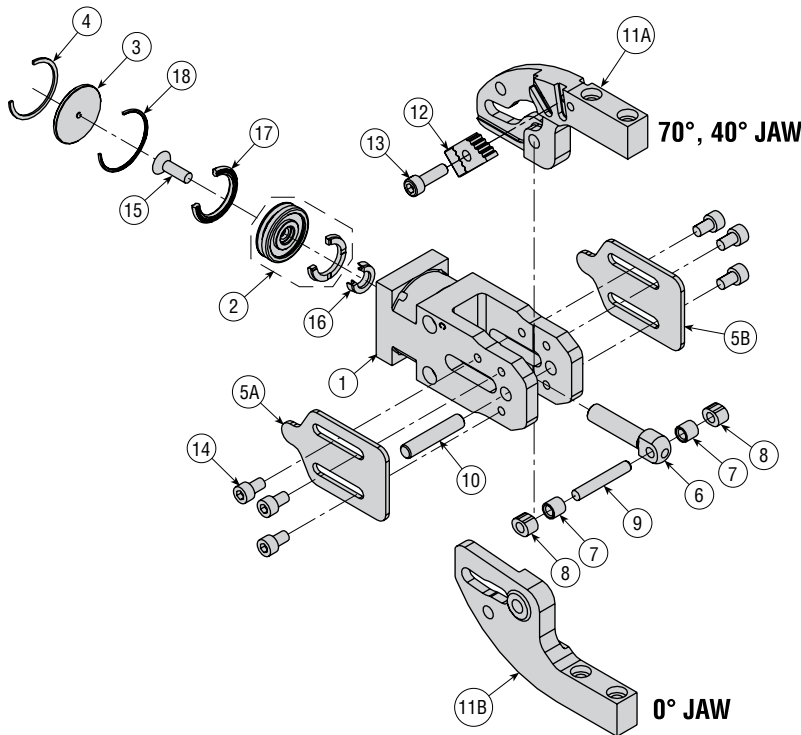


LETTER DIM	MODEL NUMBER			
	GRM2xG		GRM4xG	
	in	mm	in	mm
B1	1.910	48.5	2.176	55.3
B2	1.654	42.0	1.980	50.3
B3	.827	21.0	1.338	34.0
B4 (CLOSED)	6.713	170.5	8.996	228.5
F1 MAX	1.948	49.5	2.461	62.5
F1 MIN	1.437	36.5	1.621	41.2
F4	1.864	47.3	2.190	55.6
F5	2.336	59.3	2.662	67.6
J1 (PARALLEL)	3.780	96.0	4.724	120.0
J2 (PARALLEL)	1.063	27.0	1.250	31.8
J4*	.591	15.01	.660	16.76
J5	.906	23.0	1.136	28.9
J7	2.598	66.0	3.150	80.0
J8	.296	7.5	.354	9.0
J9	1/4	M6	5/16	M8
J10	M8 x 1.25		M10 x 1.5	
J16 (PARALLEL)	2.126	54.0	2.500	63.5
J17	.827	21.0	1.112	28.2
J18	1.063	27.0	1.181	30.0
J19	.158	4.0	.238	6.0
J20	.316	8.0	.476	12.1
J21	.295	7.5	.330	8.4
P1	.650	16.5	.388	9.9
P2	1.575	40.0	.452	11.5
P3	1.300	33.0	1.772	45.0
M1	5.590	142.0	7.304	185.5

* TOLERANCE FOR J4 DIM = ± .003 [± .076]
** J19 DIMENSION IS Q OF CLAMP TO Q OF THREAD

NOTE: SEE MOUNTING BRACKET PAGES.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER	
		GRM2xG	GRM4xG
1	BODY ASSEMBLY imperial metric	63947-11	64627-11
		63947-12	63927-12
2	PISTON & SHOCK PAD	63949	64631
3	BORE PLUG	61467	61468
4	RETAINING RING	57618-034	57618-042
5A	IMPACT PLATE	63952-00	64636-00
5B	IMPACT PLATE	63952-00	64636-00
6	ROD/JAW DRIVER	63950	63969
7	JAW BUSHING	62097	62098
8	SLIDER BUSHING	62099-01	62100
9	ROD/JAW DRIVER PIN	52416-009	52416-027
10	PIVOT PIN	62176-01	62177-01
11A	JAW (A) - 70°, 40°	63989-01	65217-01
11B	JAW (B) - 0	63990-01	65218-01
12	STOP BLOCK	63962-02	64635-02
13	STOP BLOCK SHCS	59104-118	59104-118
14	IMPACT PLATE SHCS	59104-114	59104-114
15	PISTON SFHCS	59104-600	62221-001
16	ROD SEAL	77635-009	78610-006
17	PISTON SEAL	74042-008	74042-009
18	BORE PLUG SEAL	3642-027-1	3642-028-1

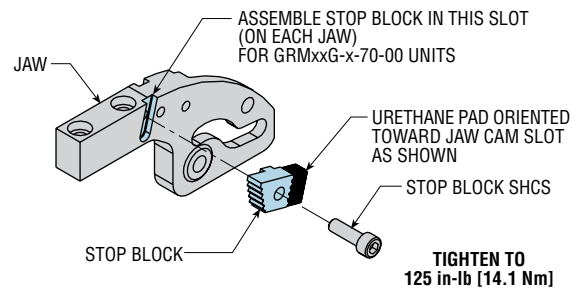
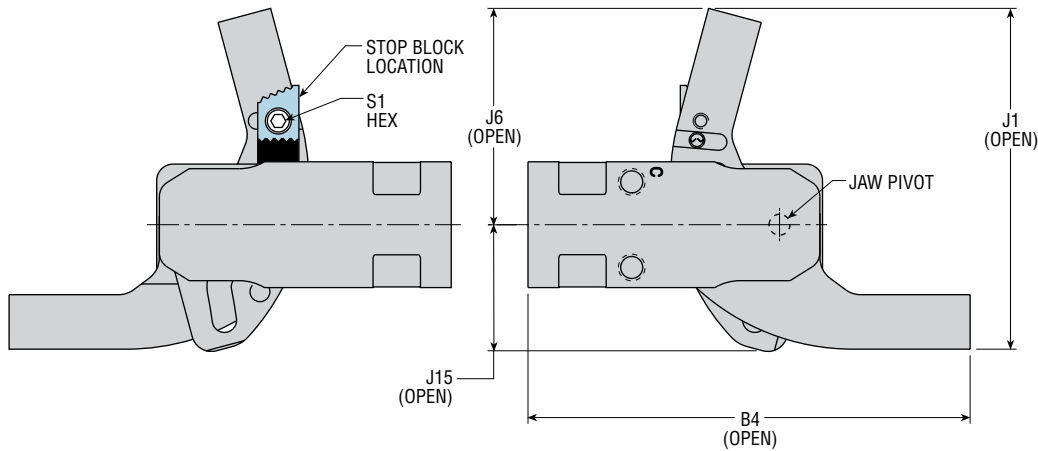
KIT DESCRIPTION	KIT NUMBER	
	GRM2xG	GRM4xG
IMPACT PLATE KIT	63967-04	64638-04
JAW REBUILD KIT	62152-01	62152-02
SEAL KIT	63965-02	63965-04
FASTENER KIT	63966-02	63966-04

JAW ROTATION DIMENSIONS: TOOLABLE JAW STYLE "G"

GRM4xG-x-70-00

ONE STOP BLOCK REQUIRED

LETTER DIM	MODEL NUMBER	
	GRM4xG	
	in	mm
B4 (OPEN)	8.996	228.5
J1 (OPEN)	6.463	164.2
J6 (OPEN)	4.101	104.2
J15 (OPEN)	2.542	64.6
S1	.197	5.0

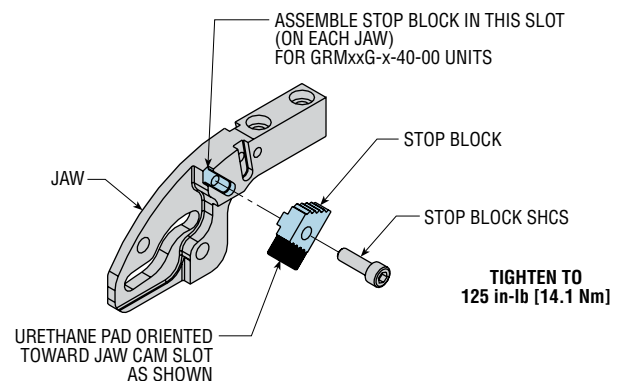
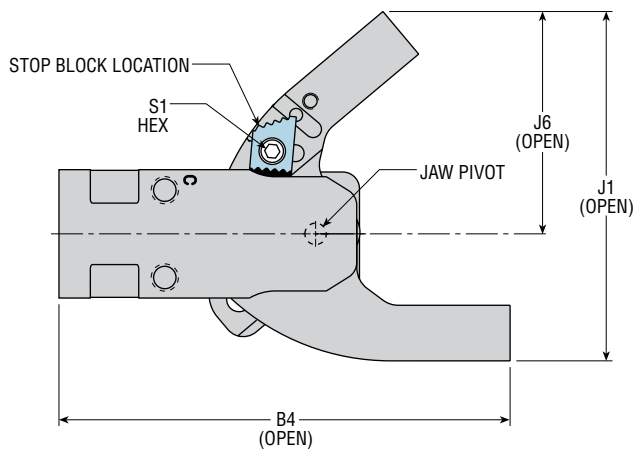


GRM2xG-x-40-00

GRM4xG-x-40-00

ONE STOP BLOCK REQUIRED

LETTER DIM	MODEL NUMBER			
	GRM2xG		GRM4xG	
	in	mm	in	mm
B4 (OPEN)	6.713	170.5	8.996	228.5
J1 (OPEN)	5.198	132.0	6.424	163.2
J6 (OPEN)	3.308	84.0	4.062	103.2
S1	.197	5.0	.197	5.0



All dimensions are reference only unless specifically tolerated.

53

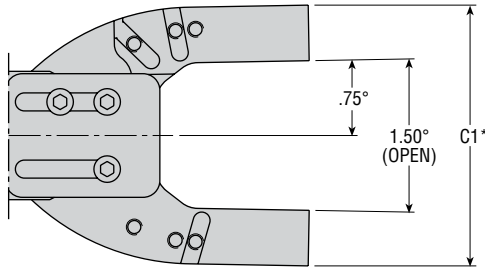
EFFECTIVE CLAMPING RANGE: TOOLABLE JAW STYLE "G"

The effective clamping range is defined as the range where the clamp develops the greatest amount of grip force. The effective clamping range occurs between the beginning (C1) and ending jaw positions as shown below. Within this clamping range the jaws are locked in position even if pressure is lost. The effective clamping range, for each jaw, is from .75° open to -0.5° closed (past parallel).

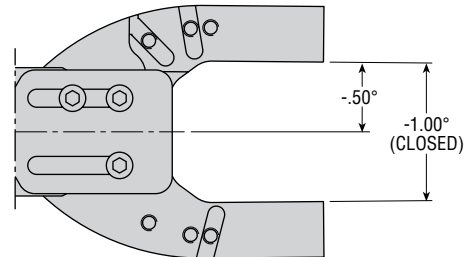
LETTER DIM	MODEL NUMBER			
	GRM2xG		GRM4xG	
	in	mm	in	mm
C1	3.855	97.9	4.815	122.3

* C1 DIMENSION IS THE BEGINNING OF THE EFFECTIVE CLAMPING RANGE MEASURED AT THE CORNER OF THE JAW

BEGINNING CLAMPING RANGE



ENDING POSITION



NOTES:

- 1) NUMBERS IN [] ARE FOR METRIC UNITS AND ARE IN mm.
- 2) ANGULAR DIMENSIONS ARE MEASURED IN DEGREES.

TOTAL CLAMP FORCE (Cf)

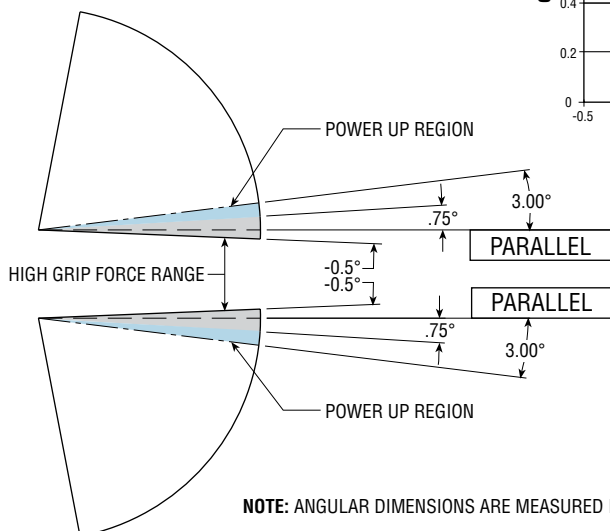
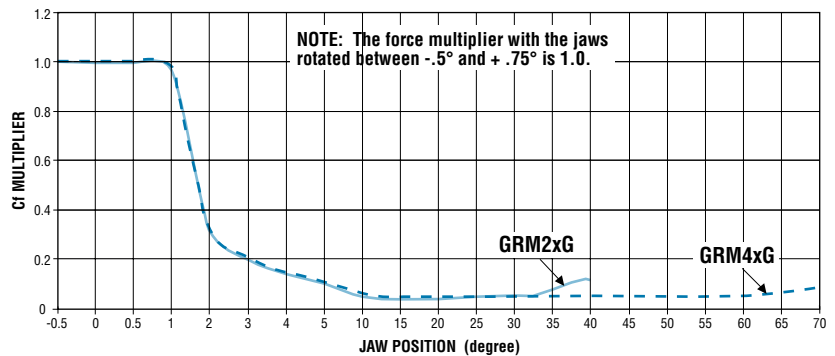
To achieve maximum clamp force, custom tooling must be designed to grip the part with the jaws located in the high force range. The greatest amount of clamp force occurs during the last 1.25° of each jaw's rotation. Refer to the picture for high grip force range.

MODEL	Cf External Grip	
	Imperial	Metric
GRM2xG-x-xx-xx	5.55	9083
GRM4xG-x-xx-xx	16.2	26503

$$\frac{\text{PRESSURE (psi)} \times \text{Cf} \times \text{Cf MULTIPLIER}}{\text{DISTANCE FROM JAW PIVOT (in)}} = \text{TOTAL FORCE (lb)}$$

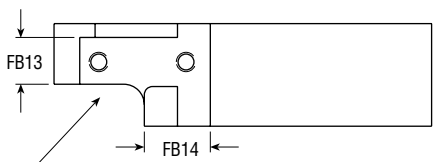
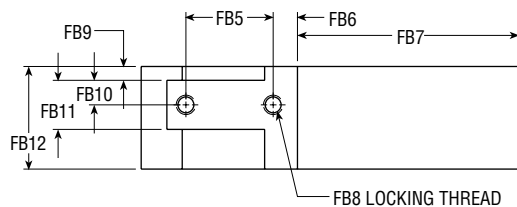
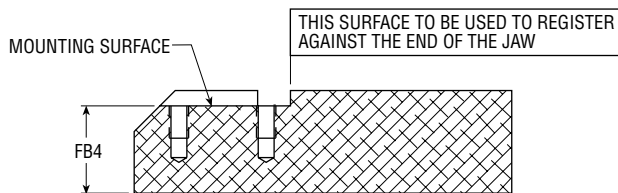
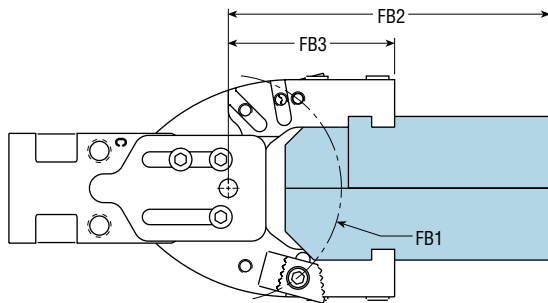
$$\frac{\text{PRESSURE (bar)} \times \text{Cf} \times \text{Cf MULTIPLIER}}{\text{DISTANCE FROM JAW PIVOT (mm)}} = \text{TOTAL FORCE (N)}$$

CLAMP FORCE MULTIPLIER FOR GRM2xG AND GRM4xG

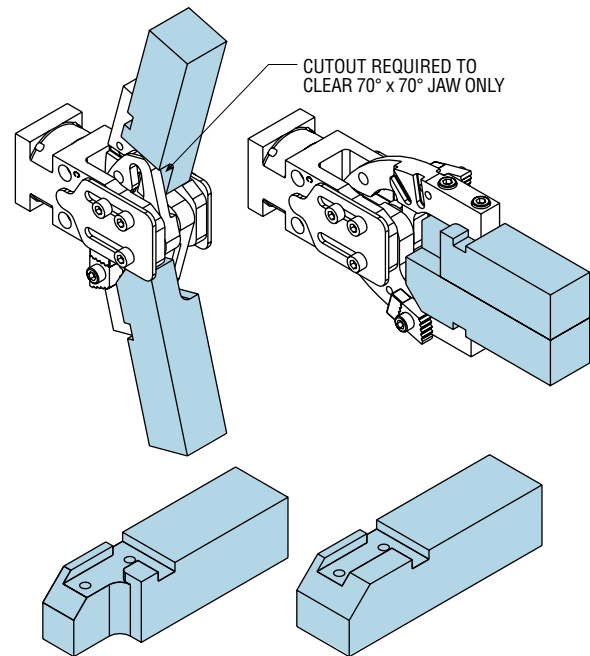


NOTE: ANGULAR DIMENSIONS ARE MEASURED IN DEGREES.

FINGER BLANKS: TOOLABLE JAW STYLE "G"



THIS CUTOUT IS REQUIRED FOR GRMxxG-x-70-70 UNITS ONLY (IT ALLOWS CLEARANCE FOR OPPOSITE JAW TO PASS WHEN JAWS ARE IN FULL OPEN POSITION)



INFORMATION FOR APPLYING FINGER BLANKS OR CUSTOM TOOLING

1. Finger blanks are made from 6061 aluminum. The outside surfaces are vibratory polished.
2. G jaws are made from 4140 steel, through hardened 30 to 35 Rc. They are machinable; customers can modify the jaws to mount special tooling. Consult PHD on jaw modifications.
3. G jaws are not in line with each other. They are shifted off center by dimension J19 (see chart). This is necessary to clear the cam portion of the opposite jaw when opening 70°. Finger blanks or custom tooling must also clear this cam area when opening 70° (see dim FB1 on dimensional page). Consider the J19 offset dimension when modifying finger blanks or making special tooling so that the tooling can align properly. Jaw width is controlled so tooling can be slotted to key into place. The end of the jaws are accurately machined to provide a tooling length registration stop. Jaw mounting threads J10 (see chart) can accept fasteners from inside or outside. They are self-locking when the fasteners are installed from the outside (as shown) and torqued properly. Use the mounting geometry shown shaded on finger blanks (45° chamfer, cutout for 70° opening, thread locations and J19 offset dimensions) to design custom tooling.
4. Standard aluminum finger blanks can be used without the need for speed controls on the clamp. Dual rotation stops must be used on G jaws as shown. For custom finger blanks that are heavier, longer, or wider than the finger blanks shown, consult PHD for approval.

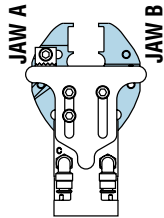
LETTER DIM	MODEL NUMBER			
	GRM2xG		GRM4xG	
	in	mm	in	mm
FB1	—	—	2.677	68.0
FB2	4.921	125.0	6.142	156.0
FB3	2.894	73.5	3.504	89.0
FB4	1.063	27.0	1.250	31.8
FB5	1.063	27.0	1.181	30.0
FB6	.296	7.5	.354	9.0
FB7	2.027	51.5	2.638	67.0
FB8	M6 x 1.0		M8 x 1.25	
FB9	.168	4.3	.178	4.5
FB10	.299	7.6	.334	8.5
FB11	.598	15.2	.667	16.9
FB12	1.250	31.8	1.500	38.1
FB13	—	—	.640	16.3
FB14	—	—	.822	20.9

MODEL NUMBER	JAW ROTATIONS	FINGER BLANK KIT NUMBER	WEIGHT PER FINGER BLANK	
			lb	kg
GRM2x	70-70	N/A	—	—
	All Other Rot.	65225-02	.64	.29
GRM4x	70-70	65226-01	1.10	.50
	All Other Rot.	65226-02	.96	.44

KIT INCLUDES:
1 FINGER BLANK
2 MOUNTING SCREWS

All dimensions are reference only unless specifically tolerated.

ORDERING DATA: GRM CLAMP SHORT JAW STYLE "R"



TO ORDER SPECIFY:

Size, Mounting, Jaw Style Option, Design No., Jaw Opening (A & B), Jaw Tip Option (A & B), and Fitting Option if desired.

UNIT SIZE
2 - 32 mm Short

JAW STYLE OPTION
R - Short Standard Jaw
(to accept Tip Options)

JAW OPENING - JAW A
00 - 0° Opening
22 - 22-1/2° Opening
35 - 35° Opening
45 - 45° Opening
60 - 60° Opening
(See Note 1)

JAW TIP OPTIONS - JAW A

Material Thickness	Material Thickness	
	0 to 1.50 mm	1.51 to 3.01 to 4 mm
Color	Black	Red
No tip	Blank	Blank
Single Cone Point	SCB	Blank
Double Cone Point	DCB	SCR
Single Diamond Point	SDB	DCR
Double Diamond Point	DDB	SDR
Single Urethane Pad	SUB	DDR
Double Urethane Pad	DUB	SUB
	DUB	DUB

(See Note 4)

GRM CLAMP JAW STYLE R	JAW A					
	0	22	35	45	60	
JAW B	0	NO	YES	NO	YES	YES
	22	YES	YES	NO	NO	NO
	35	NO	NO	YES	NO	NO
	45	YES	NO	NO	YES	NO
	60	YES	NO	NO	NO	YES

GRM 2 S R - 2 - 60 DDB - LAA

MOUNTING

T - Rear Mounting Threads (Standard)
C - 90° Spherical Mounting Bracket
R - Non-Spherical Mounting Bracket
S - Spherical Mounting Bracket
W - Oversize Spherical Mounting Bracket
A - Rear Spherical Mounting Bracket
B - Oversize Rear Spherical Mtg Bracket
P - Rear Mounting Plate

DESIGN NO.
2 - Imperial
6 - Metric
(See Note 2)

JAW OPENING - JAW B
00 - 0° Opening
22 - 22-1/2° Opening
35 - 35° Opening
45 - 45° Opening
60 - 60° Opening
(See Note 1)

JAW TIP OPTIONS - JAW B

Material Thickness	Material Thickness	
	0 to 1.50 mm	1.51 to 3.01 to 4 mm
Color	Black	Red
No tip	Blank	Blank
Single Cone Point	SCB	SCR
Double Cone Point	DCB	DCR
Single Diamond Point	SDB	SDR
Double Diamond Point	DDB	DDR
Single Urethane Pad	SUB	SUB
Double Urethane Pad	DUB	DUB

(See Note 4)

PORT FITTINGS
BLANK - No Fitting
LAA - 90° Swivel Elbow, Metal
LBB - 90° Swivel Elbow, Plastic
LCC - 90° Swivel Elbow, Metal

GRM2xx

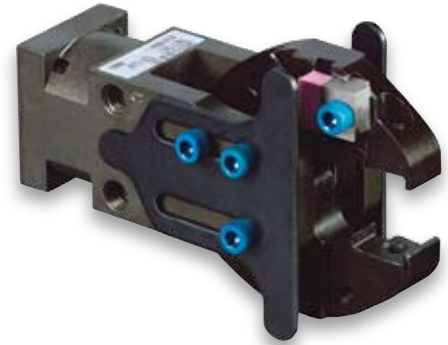
CLOSE
OPEN

NOTES:

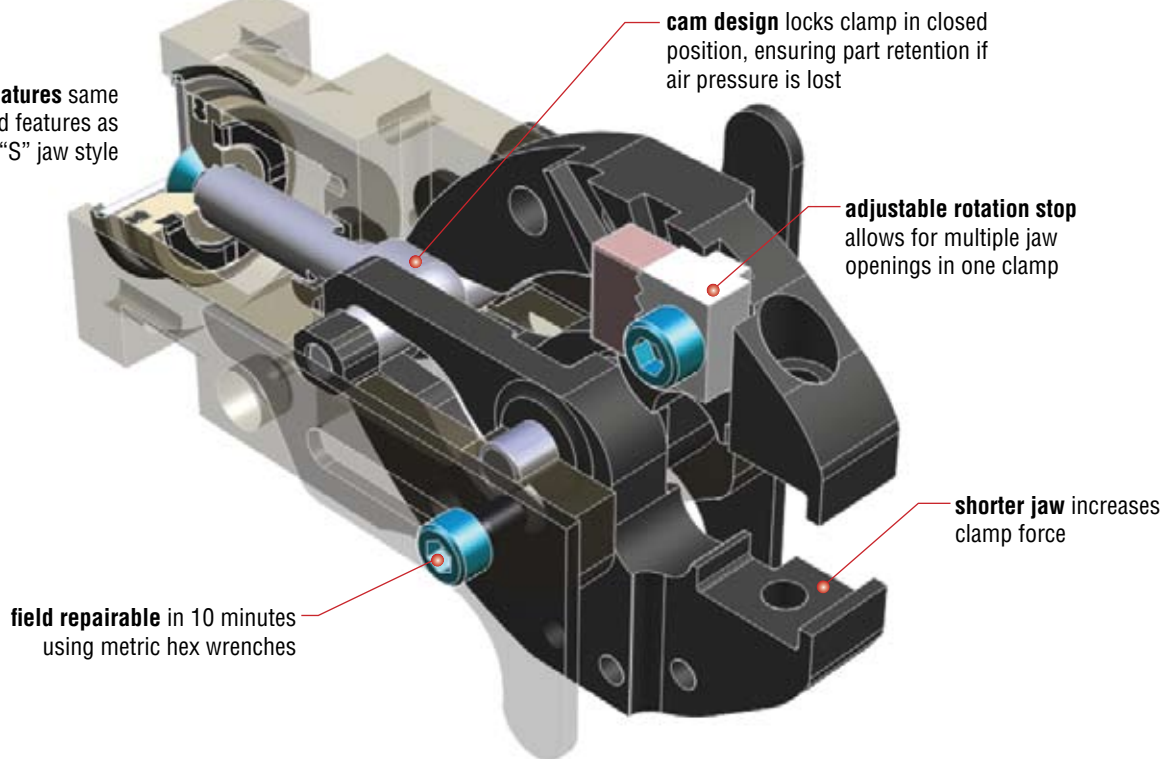
- 1) The 0° jaw rotates open no greater than 3° during the clamp cycle. The 0° jaw returns to 0° position as the opposing jaw reaches the fully open and fully closed position.
- 2) Metric units have metric ports and mounting. Imperial units have imperial ports and mounting.
- 3) See the Accessories section for non-standard options.
- 4) Cone point against cone point tip combinations are not allowed due to point overlap.



IDEAL FOR CLAMPING IN APPLICATIONS WHERE SPACE IS LIMITED OR INCREASED CLAMP FORCE IS DESIRED



standard features same options and features as "S" jaw style



cam design locks clamp in closed position, ensuring part retention if air pressure is lost

adjustable rotation stop allows for multiple jaw openings in one clamp

shorter jaw increases clamp force

field repairable in 10 minutes using metric hex wrenches

Major Benefits

- Small profile make these clamps ideal for clamping in very tight openings.
- Compact envelope size with clamp force up to 330 lb [1468 N]. –B08 option increases clamp force up to 676 [3007 N].
- Simple design, long life, high grip force, and fast field maintenance.
- Available in one jaw style and ten different jaw opening combinations.
- Jaws lock in closed position, ensuring part retention even when air pressure is removed.
- Two adjustable hardened-steel impact plates eliminate damage from panel impact.
- 24 hour delivery

Industry Uses

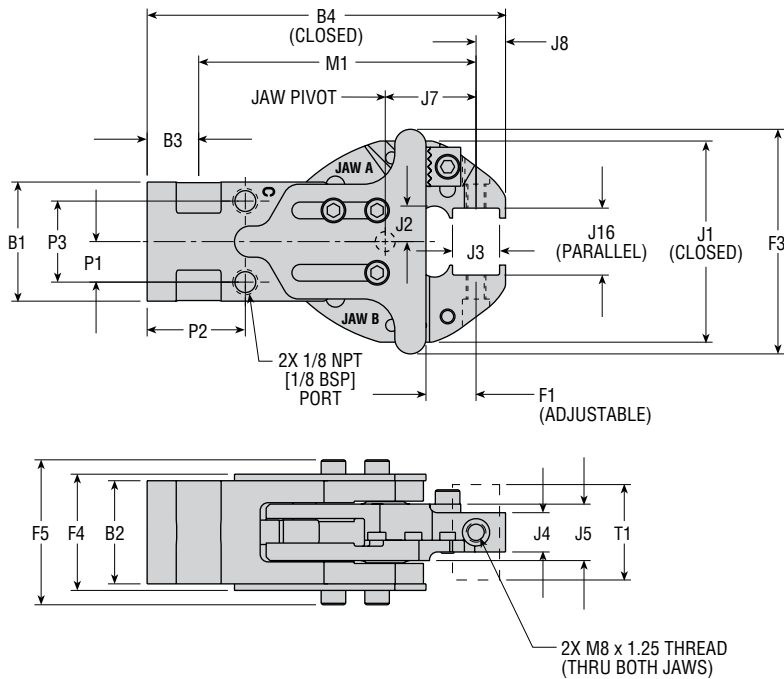
- Limited space environments
- Material handling
- Assembly
- General industrial automation



Contact your local distributor for Clamp unit pricing.

DIMENSIONS: SHORT CLAMP JAW STYLE "R" - SIZE 2

GRM2xR-x-xxxxx-xxxxx

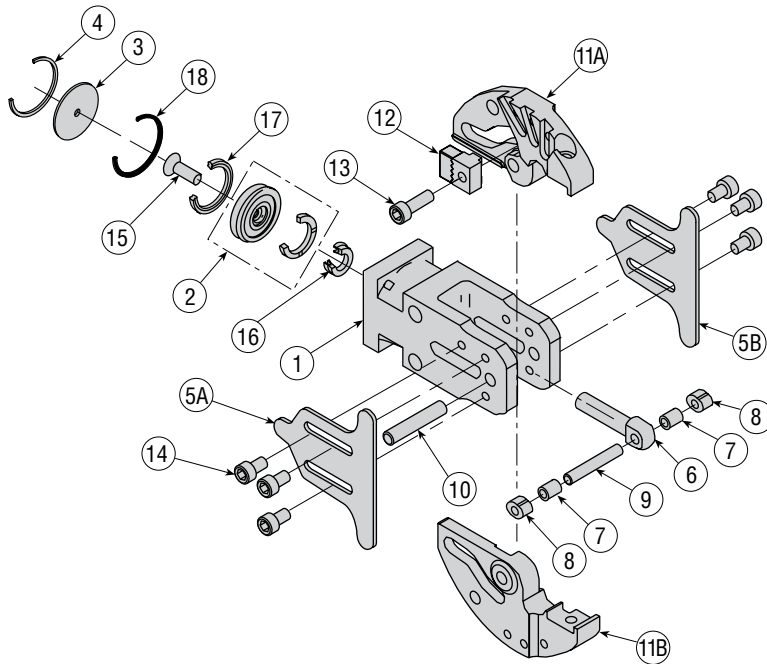


LETTER DIM	MODEL NUMBER	
	GRM2xR	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	5.748	146.0
F1 MAX	.803	20.4
F1 MIN	.292	7.4
F3	3.602	91.5
F4	1.864	47.3
F5	2.336	59.3
J1 (CLOSED)	3.226	81.9
J2 (CLOSED)	.570	14.5
J3*	.755	19.2
J4*	.630	16.0
J5	.906	23.0
J7	1.456	37.0
J8	.472	12.0
J16 (PARALLEL)	1.074	27.3
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	4.448	113.0
T1**	1.530	38.9

* TOLERANCE FOR J3 & J4 = ± .003 [± .076]
 ** T1 IS THE LARGEST TIP AVAILABLE.

NOTE: SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER
		GRM2xR
1	BODY ASSEMBLY -imperial -metric	63947-11
		63947-12
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63952-02
5B	IMPACT PLATE	63952-02
6	ROD/JAW DRIVER	63950
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-009
10	PIVOT PIN	62176-01
11A	JAW (A)	79532-01
11B	JAW (B)	79532-01
12	STOP BLOCK	74388
13	STOP BLOCK SHCS	59104-118
14	IMPACT PLATE SHCS	59104-114
15	PISTON SFHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1

KIT DESCRIPTION	KIT NUMBER
	GRM2xR
IMPACT PLATE KIT	63967-02
JAW REBUILD KIT	62152-01
SEAL KIT	63965-02
FASTENER KIT	63966-02

NOTE: SEE MOUNTING BRACKET KIT PAGE.

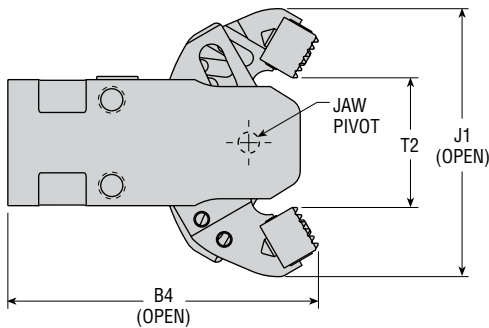
JAW ROTATION DIMENSIONS: SHORT JAW STYLE "R"

GRM2xR-x-60xxx-60xxx STOP BLOCK NOT REQUIRED

60° Both Jaws Rotate

LETTER DIM	MODEL NUMBER	
	GRM2xR	
	in	mm
B4 (OPEN)	4.707	119.6
J1 (OPEN)	4.060	103.1
T2	1.965	49.9

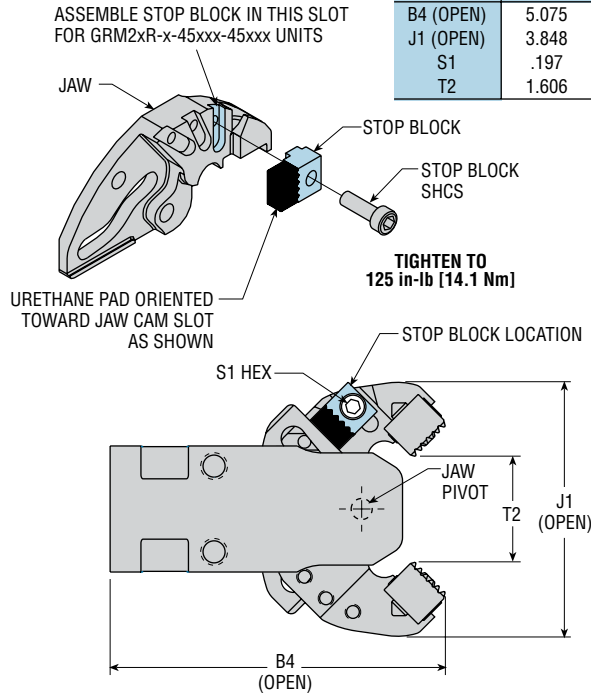
NOTE:
THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.
IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.



GRM2xR-x-45xxx-45xxx ONE STOP BLOCK REQUIRED

45° Both Jaws Rotate

LETTER DIM	MODEL NUMBER	
	GRM2xR	
	in	mm
B4 (OPEN)	5.075	128.9
J1 (OPEN)	3.848	97.7
S1	.197	5.0
T2	1.606	40.8

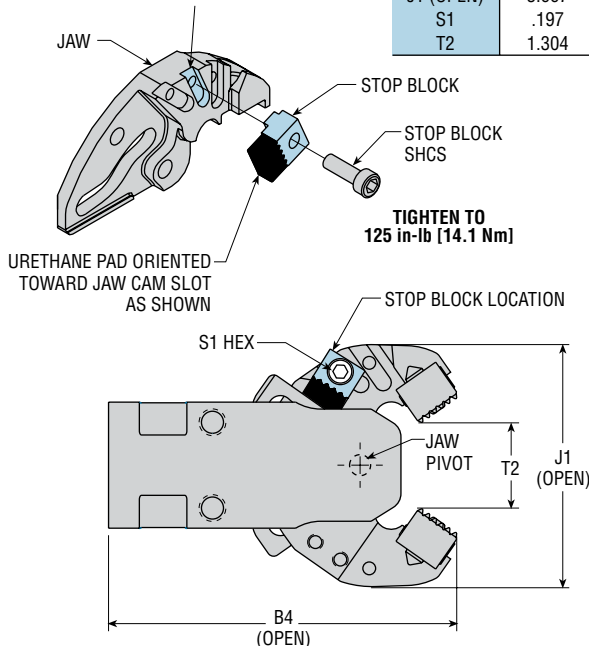


GRM2xR-x-35xxx-35xxx ONE STOP BLOCK REQUIRED

35° Both Jaws Rotate

LETTER DIM	MODEL NUMBER	
	GRM2xR	
	in	mm
B4 (OPEN)	5.274	134.0
J1 (OPEN)	3.667	93.1
S1	.197	5.0
T2	1.304	33.1

ASSEMBLE STOP BLOCK IN THIS SLOT FOR GRM2xR-x-35xxx-35xxx UNITS

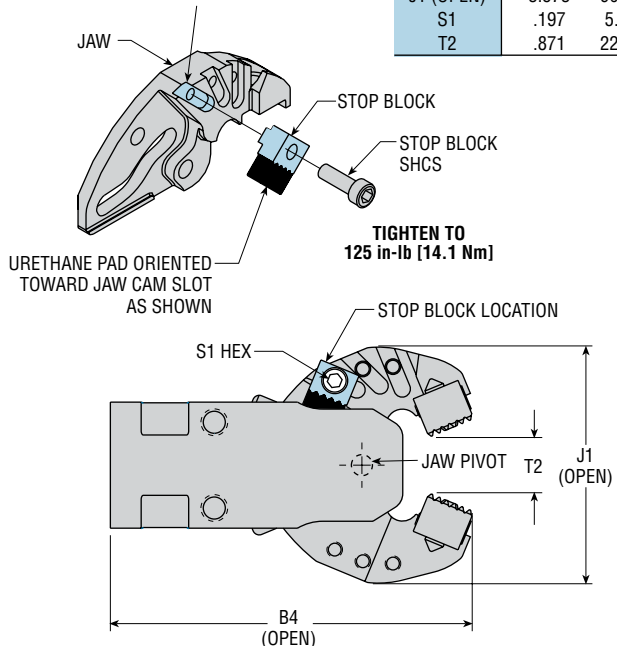


GRM2xR-x-22xxx-22xxx ONE STOP BLOCK REQUIRED

22° Both Jaws Rotate

LETTER DIM	MODEL NUMBER	
	GRM2xR	
	in	mm
B4 (OPEN)	5.481	139.2
J1 (OPEN)	3.573	90.8
S1	.197	5.0
T2	.871	22.1

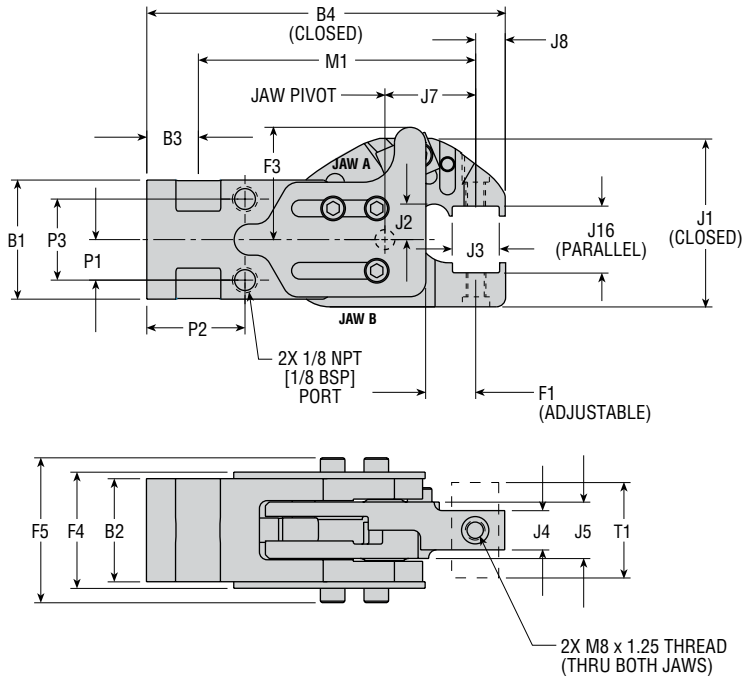
ASSEMBLE STOP BLOCK IN THIS SLOT FOR GRM2xR-x-22xxx-22xxx UNITS



All dimensions are reference only unless specifically tolerated.

DIMENSIONS: SHORT JAW STYLE "R" - SIZE 2

GRM2xR-x-xxxxx-00xxx



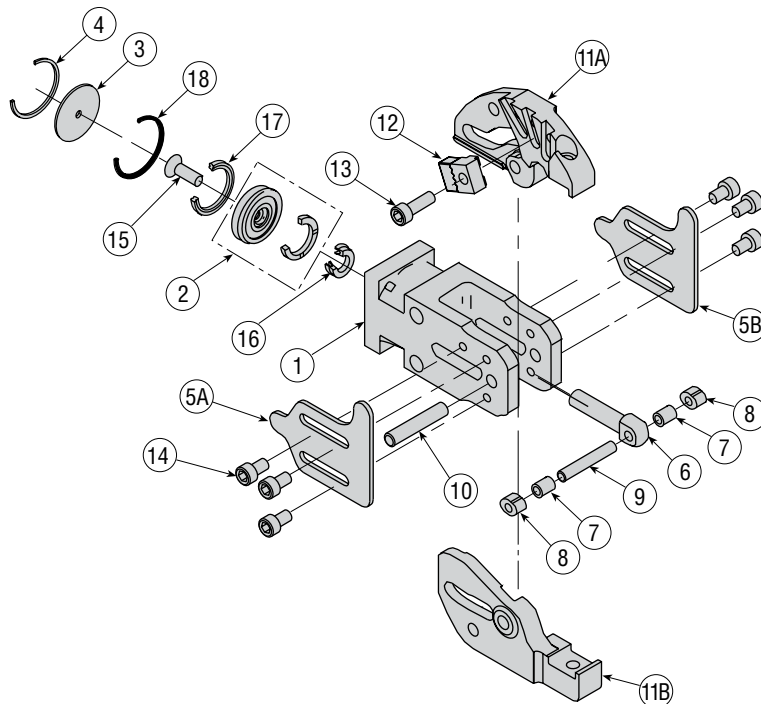
LETTER DIM	MODEL NUMBER GRM2xR	
	in	mm
B1	1.910	48.5
B2	1.654	42.0
B3	.827	21.0
B4 (CLOSED)	5.748	146.0
F1 MAX	.803	20.4
F1 MIN	.292	7.4
F3	1.801	45.7
F4	1.864	47.3
F5	2.336	59.3
J1 (CLOSED)	2.695	68.5
J2 (CLOSED)	.570	14.5
J3*	.755	19.2
J4*	.630	16.0
J5	.906	23.0
J6	1.613	41.0
J7	1.456	37.0
J8	.472	12.0
J16 (PARALLEL)	1.074	27.3
P1	.650	16.5
P2	1.575	40.0
P3	1.300	33.0
M1	4.448	113.0
T1**	1.530	38.9

* TOLERANCE FOR J3 & J4 = ± .003 [± .076]
 ** T1 IS THE LARGEST TIP AVAILABLE.

NOTES:

- 1) SEE TIP DIMENSION AND MOUNTING BRACKET PAGES.
- 2) THE 0° JAW ROTATES 3° DURING THE CLAMP CYCLE, OPENING THE END OF THE JAW .079 [2.0]. THE JAW RETURNS TO THE 0° POSITION AS THE OPPOSING JAW REACHES FULL OPEN OR CLOSED.

PARTS BREAKDOWN



KEY	DESCRIPTION	PART NUMBER
		GRM2xR
1	BODY ASSEMBLY -imperial	63947-11
	-metric	63947-12
2	PISTON & SHOCK PAD	63949
3	BORE PLUG	61467
4	RETAINING RING	57618-034
5A	IMPACT PLATE	63952-01
5B	IMPACT PLATE	63952-01
6	ROD/JAW DRIVER	63950
7	JAW BUSHING	62097
8	SLIDER BUSHING	62099-01
9	ROD/JAW DRIVER PIN	52416-009
10	PIVOT PIN	62176-01
11A	JAW (A)	79532-01
11B	JAW (B)	79533-01
12	STOP BLOCK	74388
13	STOP BLOCK SHCS	59104-118
14	IMPACT PLATE SHCS	59104-114
15	PISTON SFHCS	59104-600
16	ROD SEAL	77635-009
17	PISTON SEAL	74042-008
18	BORE PLUG SEAL	3642-027-1

KIT DESCRIPTION	KIT NUMBER
	GRM2xR
IMPACT PLATE KIT	63967-02
JAW REBUILD KIT	62152-01
SEAL KIT	63965-02
FASTENER KIT	63966-02

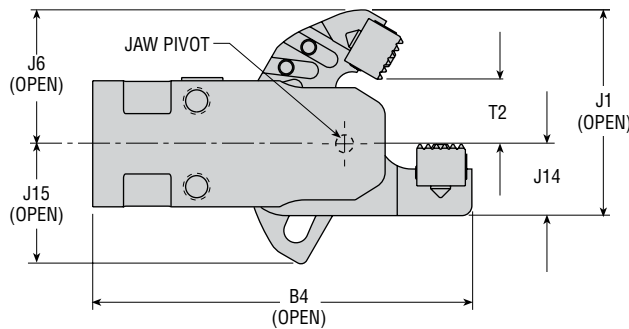
NOTE: SEE MOUNTING BRACKET KIT PAGE.

JAW ROTATION DIMENSIONS: SHORT JAW STYLE "R"

GRM2xR-x-60xxx-00xxx

STOP BLOCK NOT REQUIRED

60° Jaw A Rotates



LETTER DIM	MODEL NUMBER	
	GRM2xR	
	in	mm
B4 (OPEN)	5.748	146.0
J1 (OPEN)	3.112	79.0
J6 (OPEN)	2.030	51.6
J14	1.082	27.5
J15 (OPEN)	1.811	46.0
T2	.984	25.0

NOTE:

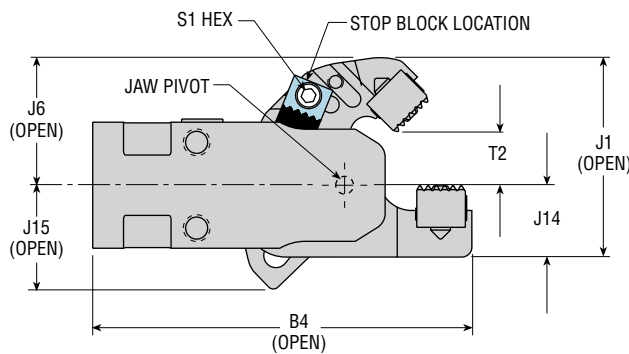
THE STOP BLOCK MOUNTING SCREW IS EXTRA LONG AND MUST BE USED TO MOUNT STOP BLOCK IN ANY LOCATION ON BODY OR JAWS.

IF THIS EXTRA LONG SCREW IS ASSEMBLED INTO THE IMPACT PLATE WITHOUT THE STOP BLOCK, IT WILL HIT AND DAMAGE THE JAWS.

GRM2xR-x-45xxx-00xxx

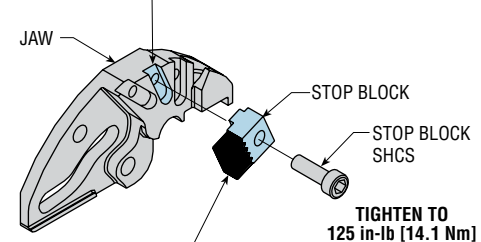
ONE STOP BLOCK REQUIRED

45° Jaw A Rotates



LETTER DIM	MODEL NUMBER	
	GRM2xR	
	in	mm
B4 (OPEN)	5.748	146.0
J1 (OPEN)	3.003	76.3
J6 (OPEN)	1.924	48.9
J14	1.082	27.5
J15 (OPEN)	1.582	40.2
S1	.197	5.0
T2	.803	20.4

ASSEMBLE STOP BLOCK IN THIS SLOT FOR GRM2xR-x-45xxx-00xxx UNITS

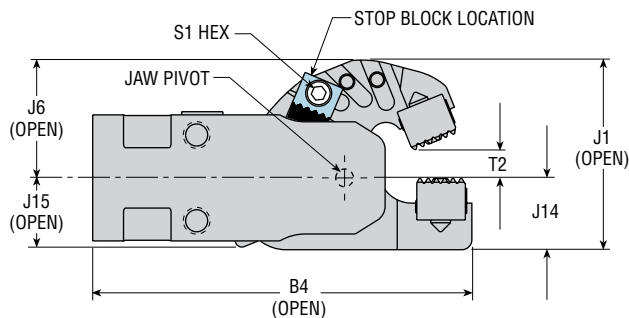


TIGHTEN TO 125 in-lb [14.1 Nm]

GRM2xR-x-22xxx-00xxx

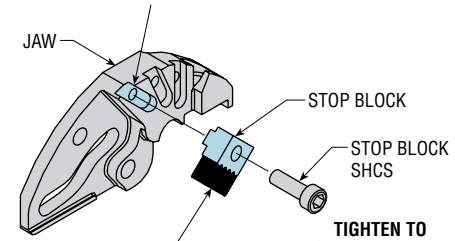
ONE STOP BLOCK REQUIRED

22° Jaw A Rotates



LETTER DIM	MODEL NUMBER	
	GRM2xR	
	in	mm
B4 (OPEN)	5.748	146.0
J1 (OPEN)	2.869	72.9
J6 (OPEN)	1.788	45.4
J14	1.082	27.5
J15 (OPEN)	1.044	26.5
S1	.197	5.0
T2	.436	11.1

ASSEMBLE STOP BLOCK IN THIS SLOT FOR GRM2xR-x-22xxx-00xxx UNITS



TIGHTEN TO 125 in-lb [14.1 Nm]

All dimensions are reference only unless specifically tolerated.

ENGINEERING DATA: SERIES GRM CLAMPS

SIZE 2 SPECIFICATIONS

MODEL	UNIT WEIGHT*		TOTAL CLAMP FORCE at 87 psi [6 bar]		MAXIMUM EXTERNAL LOAD	
	lb	kg	lb	N	lb	N
GRM2xS-x-75-75	2.1	0.95	225	1000	300	1334
GRM2xS-x-45-45						
GRM2xS-x-22-22						
GRM2xS-x-75-00	2.0	0.91	225	1000	300	1334
GRM2xS-x-45-00						
GRM2xS-x-22-00						
GRM2xC-x-75-75	2.0	0.91	225	1000	300	1334
GRM2xC-x-45-45						
GRM2xC-x-22-22						
GRM2xC-x-75-00	2.0	0.91	225	1000	300	1334
GRM2xC-x-45-00						
GRM2xC-x-22-00						
GRM2xD-x-75-75	2.0	0.91	225	1000	300	1334
GRM2xD-x-45-45						
GRM2xD-x-22-22						
GRM2xD-x-75-00	2.0	0.91	225	1000	300	1334
GRM2xD-x-45-00						
GRM2xD-x-22-00						
GRM2xH-x-75-00	2.0	0.91	225	1000	300	1334
GRM2xH-x-45-00						
GRM2xH-x-22-00						
GRM2xJ-x-75-00	2.1	0.95	225	1000	300	1334
GRM2xJ-x-45-00						
GRM2xJ-x-22-00						
GRM2TL-x-85-00	2.5	1.13	225	1000	300	1334
GRM2TL-x-45-00						
GRM2TL-x-22-00						
GRM2TM-x-85-00	2.7	1.22	225	1000	300	1334
GRM2TM-x-45-00						
GRM2TM-x-22-00						
GRM2xF-x-85-00	2.1	0.95	225	1000	300	1334
GRM2xF-x-50-00						
GRM2xF-x-22-00						
GRM2xN-x-75-75	1.9	0.86	225	1000	300	1334
GRM2xN-x-45-45						
GRM2xN-x-22-22						
GRM2xN-x-75-00	1.9	0.86	225	1000	300	1334
GRM2xN-x-45-00						
GRM2xN-x-22-00						
GRM2xP-x-75-75	1.9	0.86	225	1000	300	1334
GRM2xP-x-45-45						
GRM2xP-x-22-22						
GRM2xP-x-75-00	1.9	0.86	225	1000	300	1334
GRM2xP-x-45-00						
GRM2xP-x-22-00						
GRM2xK-x-50-40	2.0	0.91	225	1000	300	1334
GRM2xK-x-25-20						
GRM2xK-x-50-00						
GRM2xG-x-40-40	2.3	1.04	225	1000	300	1334
GRM2xG-x-22-22						
GRM2xG-x-40-00						

*Weight is for basic clamp without mounting bracket or tips

SIZE 2 SPECIFICATIONS (continued)

MODEL	UNIT WEIGHT*		TOTAL CLAMP FORCE at 87 psi [6 bar]		MAXIMUM EXTERNAL LOAD	
	lb	kg	lb	N	lb	N
GRM2xR-x-60-60	1.96	0.89	330	1468	300	1334
GRM2xR-x-45-45						
GRM2xR-x-35-35						
GRM2xR-x-22-22	1.94	0.88	330	1468	300	1334
GRM2xR-x-60-00						
GRM2xR-x-45-00						
GRM2xR-x-22-00						

*Weight is for basic clamp without mounting bracket or tips

SIZE 4 SPECIFICATIONS

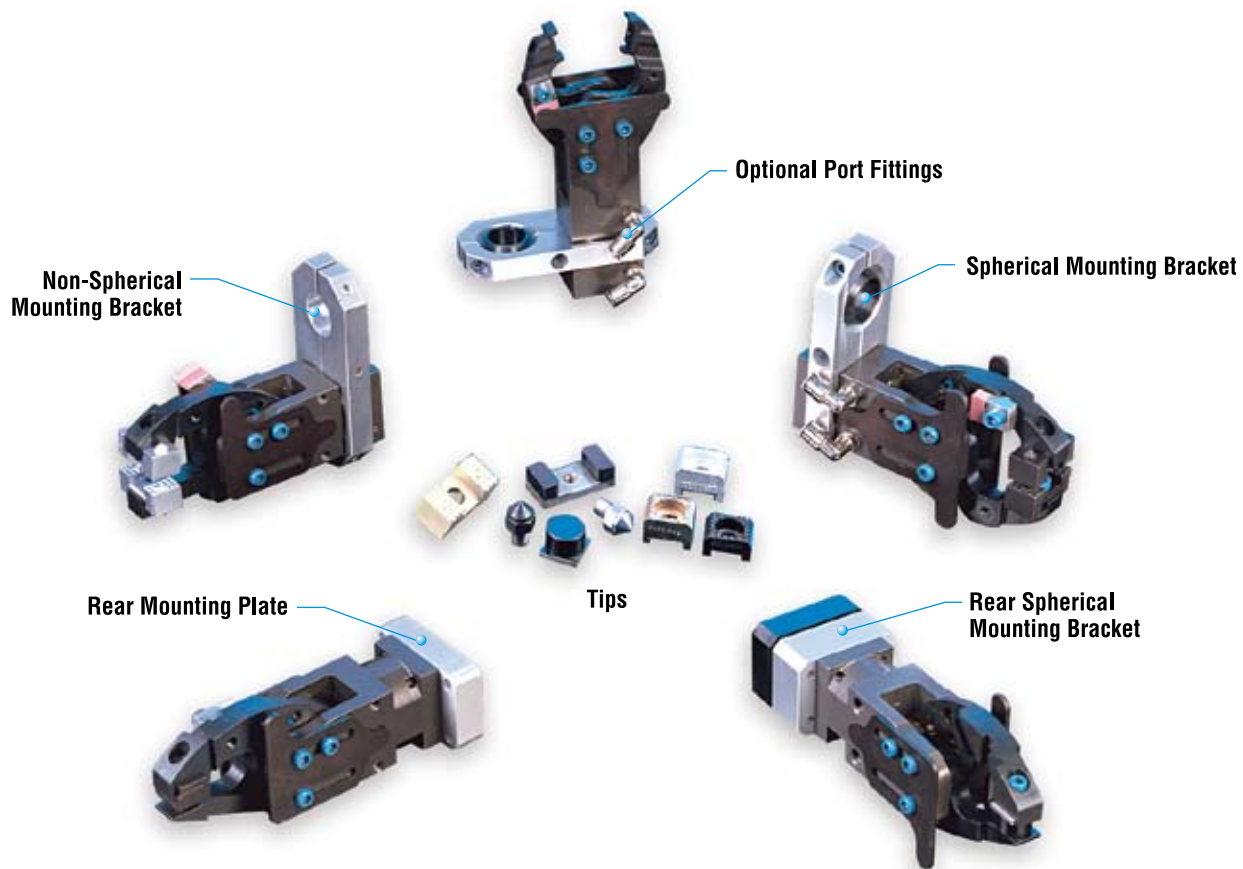
MODEL	UNIT WEIGHT*		TOTAL CLAMP FORCE at 87 psi [6 bar]		MAXIMUM EXTERNAL LOAD	
	lb	kg	lb	N	lb	N
GRM4xS-x-75-75	4.2	1.91	500	2224	450	2002
GRM4xS-x-45-45						
GRM4xS-x-22-22						
GRM4xS-x-75-00	4.0	1.81	500	2224	450	2002
GRM4xS-x-45-00						
GRM4xS-x-22-00						
GRM4xH-x-75-00	4.0	1.81	500	2224	450	2002
GRM4xH-x-45-00						
GRM4xH-x-22-00						
GRM4xJ-x-75-00	4.2	1.91	500	2224	450	2002
GRM4xJ-x-45-00						
GRM4xJ-x-22-00						
GRM4xF-x-85-00	4.3	1.95	500	2224	450	2002
GRM4xF-x-50-00						
GRM4xG-x-70-70	4.2	1.91	500	2224	450	2002
GRM4xG-x-40-40						
GRM4xG-x-22-22						
GRM4xG-x-70-00	4.2	1.91	500	2224	450	2002
GRM4xG-x-40-00						

*Weight is for basic clamp without mounting bracket or tips

SPECIFICATIONS	FOR ALL GRM CLAMP JAW STYLES
WORKING PRESSURE	30 psi min. - 100 psi max. [2 bar min. - 7 bar max.]
BODY	Hardcoat Aluminum
JAWS	Hardened Steel
SEALS	Bidirectional Piston Seal Lip Type Rod Seal
LUBRICATION	Permanent for Non-Lube Air
TEMPERATURE LIMITS	-20° to 180°F [-30° to 82°C]

MODEL	DISPLACEMENT OPEN OR CLOSE	
	in ³	cm ³
GRM2	1.15	18.8
GRM4	2.40	39.4

ENGINEERING DATA: SERIES GRM CLAMPS



MOUNTING OPTIONS

MTG. CODE	DESCRIPTION	WEIGHT ADDER			
		SIZE 2		SIZE 4	
		lb	kg	lb	kg
C	90° Spherical Mounting Bracket	.62	.28	.99	.45
R	Non-Spherical Mounting Bracket	.38	.17	.52	.24
S	Spherical Mounting Bracket	.49	.22	.64	.29
W	Oversize Spherical Mounting Bracket	.81	.37	.92	.42
A	Rear Spherical Mounting Bracket	1.00	.45	1.68	.76
B	Oversize Rear Spherical Mounting Bracket	1.67	.76	1.71	.78
P	Rear Mounting Plate	.24	.11	.56	.25
T	Rear Mounting Thread (Standard)	0	0	0	0

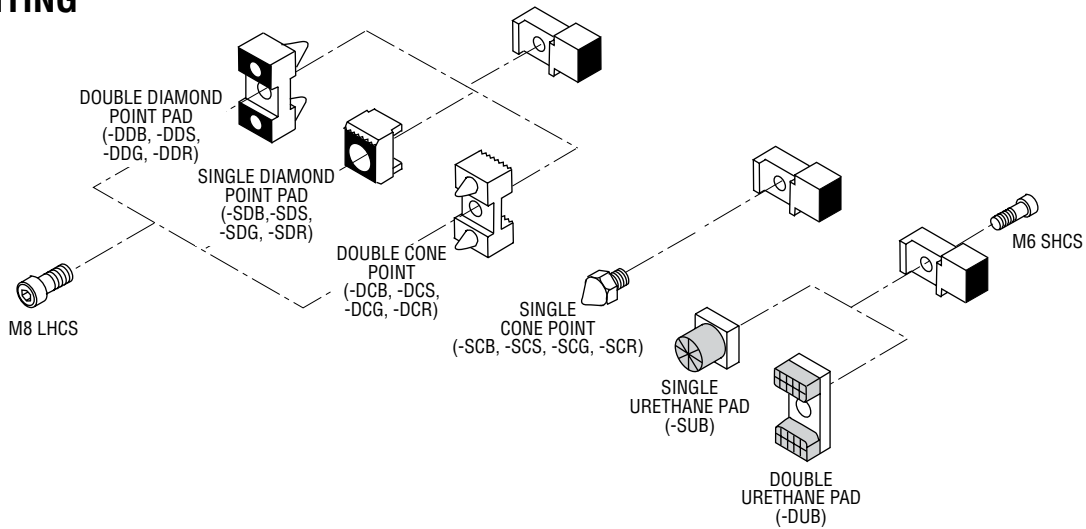
TIP OPTIONS

MODEL	TIP WEIGHT			
	SIZE 2		SIZE 4	
	lb	kg	lb	kg
SCx	.03	.01	.04	.02
SDx	.07	.03	.13	.06
DCx	.13	.06	.25	.11
DDx	.13	.06	.25	.11
SUB	.04	.02	.08	.04
DUB	.10	.05	.16	.07

For additional mounting, jaw, switch, and tip options, see the Series GRM Clamp Accessories section.

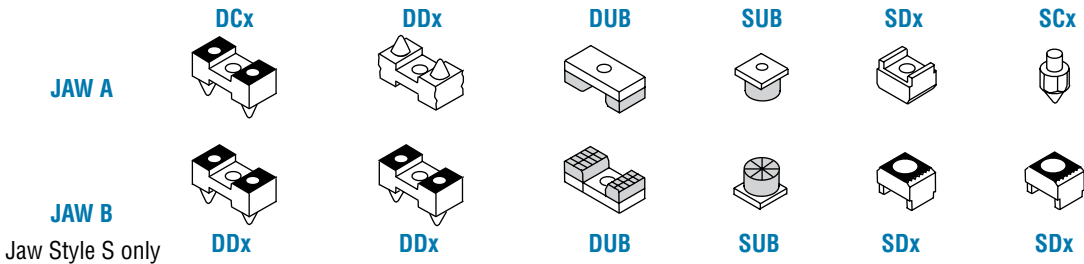
TIP MOUNTING: JAW STYLES “S, C, D, K, L, & M”

TIP MOUNTING



RECOMMENDED TIP COMBINATIONS

(See Tip Dimensions page.)



	JAW TIP OPTIONS - JAW A			
	Material Thickness			
	0 to 1.50 mm	1.51 to 3 mm	3.01 to 4 mm	4.01 to 5 mm*
Color	Black	Silver	Gold	Red
No tip	Blank	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCG	SCR
Double Cone Point	DCB	DCS	DCG	DCR
Single Diamond Point	SDB	SDS	SDG	SDR
Double Diamond Point	DDB	DDS	DDG	DDR
Single Urethane Pad	SUB	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB	DUB

(See Notes 1 - 4)

	JAW TIP OPTIONS - JAW B			
	Material Thickness			
	0 to 1.50 mm	1.51 to 3 mm	3.01 to 4 mm	4.01 to 5 mm*
Color	Black	Silver	Gold	Red
No tip	Blank	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCG	SCR
Double Cone Point	DCB	DCS	DCG	DCR
Single Diamond Point	SDB	SDS	SDG	SDR
Double Diamond Point	DDB	DDS	DDG	DDR
Single Urethane Pad	SUB	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB	DUB

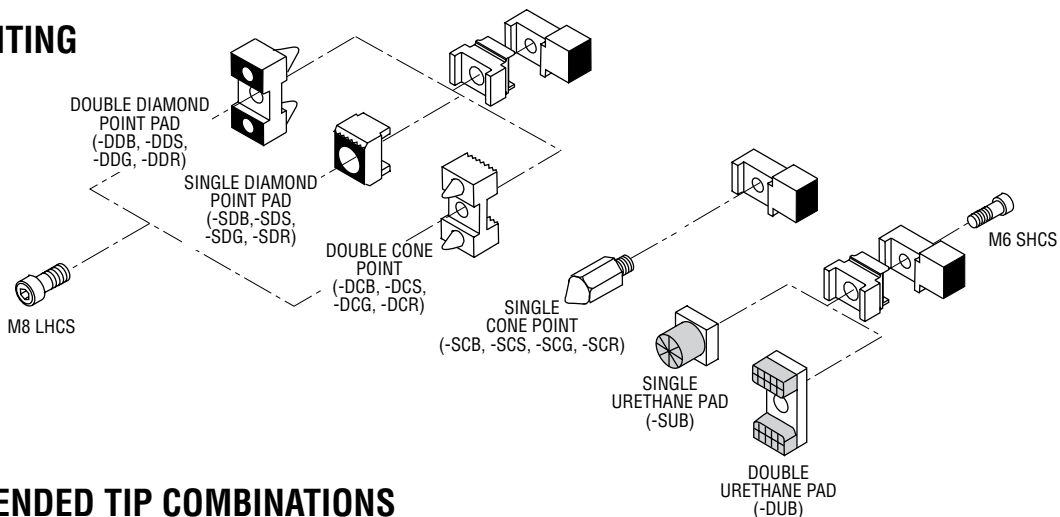
(See Notes 1 - 4)

NOTES:

- 1) Cone point against cone point tip combinations are not allowed due to point overlap.
- 2) Red tips are available only on GRM size 2.
- 3) *Material thickness for L and M jaw styles = 4.01 to 4.5 mm.
- 4) Jaw B tip options are not available for L and M jaw styles.

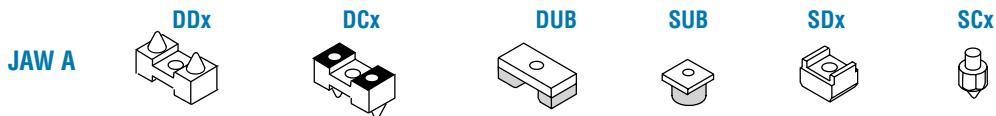
TIP MOUNTING: SHOVEL JAW STYLES "H & J"

TIP MOUNTING



RECOMMENDED TIP COMBINATIONS

(See Tip Dimensions page.)



JAW TIP OPTIONS - JAW A				
	Material Thickness			
	0 to 1.50 mm	1.51 to 3 mm	3.01 to 4 mm	4.01 to 4.5 mm
Color	Black	Silver	Gold	Red
No tip	Blank	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCG	SCR
Double Cone Point	DCB	DCS	DCG	DCR
Single Diamond Point	SDB	SDS	SDG	SDR
Double Diamond Point	DDB	DDS	DDG	DDR
Single Urethane Pad	SUB	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB	DUB

(See Notes 1 & 2)

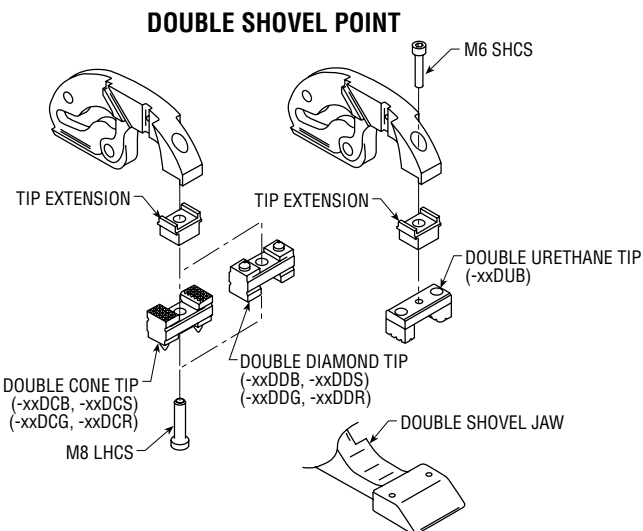
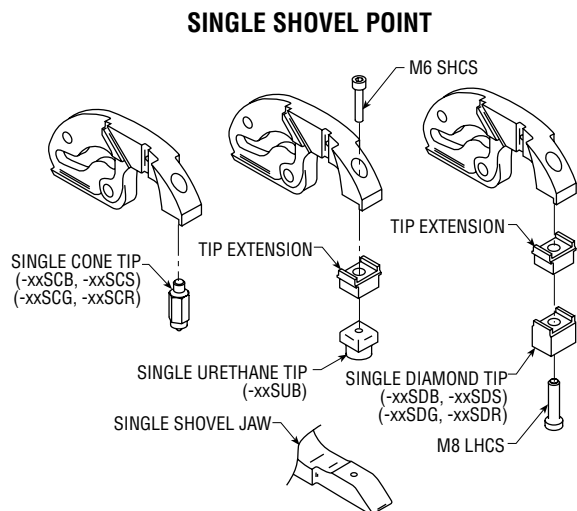
JAW TIP OPTIONS - JAW B				
	Material Thickness			
	0 to 1.50 mm	1.51 to 3 mm	3.01 to 4 mm	4.01 to 4.5 mm
Color	Black	Silver	Gold	Red
No tip	Blank	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCG	SCR
Double Cone Point	DCB	DCS	DCG	DCR
Single Diamond Point	SDB	SDS	SDG	SDR
Double Diamond Point	DDB	DDS	DDG	DDR
Single Urethane Pad	SUB	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB	DUB

(See Notes 1 & 2)

NOTES:

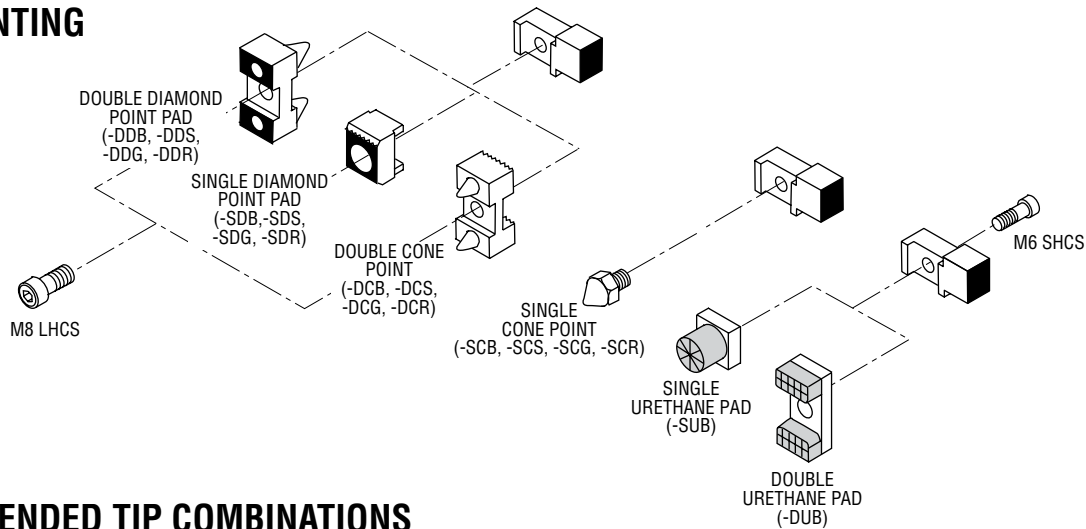
- 1) Cone point against cone point tip combinations are not allowed due to point overlap.
- 2) Red tips are available only on GRM size 2.

TIP COMBINATIONS



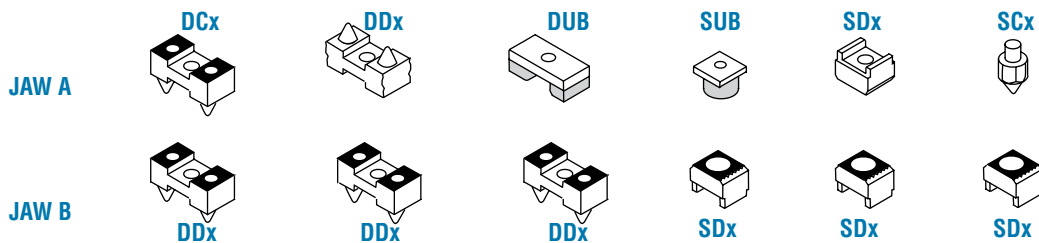
TIP MOUNTING: FLANGE JAW STYLE "F"

TIP MOUNTING



RECOMMENDED TIP COMBINATIONS

(See Tip Dimensions page.)



JAW TIP OPTIONS - 85° & 50° JAW A								
	Material Thickness [mm]							
	0 to .85	.86 to 1.20	1.21 to 1.52	1.53 to 1.94	1.95 to 2.29	2.3 to 2.6	2.61 to 3.0	3.01 to 3.4
Color	Black	Silver	Gold	Silver	Gold	Gold	Red	Red
Single Cone Point	SCB	SCS	SCG	SCS	SCG	SCG	SCR	SCR
Double Cone Point	DCB	DCS	DCG	DCS	DCG	DCG	DCR	DCR
Single Diamond Point Pad	SDB	SDS	SDG	SDS	SDG	SDG	SDR	SDR
Double Diamond Point Pad	DDB	DDS	DDG	DDS	DDG	DDG	DDR	DDR
Single Urethane Pad	SUB	SUB	SUB	SUB	SUB	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB	DUB	DUB	DUB	DUB	DUB

(See Notes 1 & 2)

JAW TIP OPTIONS - 85° & 50° JAW B								
	Material Thickness [mm]							
	0 to .85	.86 to 1.20	1.21 to 1.52	1.53 to 1.94	1.95 to 2.29	2.3 to 2.6	2.61 to 3.0	3.01 to 3.4
Color	Black	Black	Black	Silver	Silver	Gold	Gold	Red
Single Cone Point	SCB	SCB	SCB	SCS	SCS	SCG	SCG	SCR
Single Diamond Point Pad	SDB	SDB	SDB	SDS	SDS	SDG	SDG	SDR
Double Diamond Point Pad	DDB	DDB	DDB	DDS	DDS	DDG	DDG	DDR
Single Urethane Pad	SUB	SUB	SUB	SUB	SUB	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB	DUB	DUB	DUB	DUB	DUB

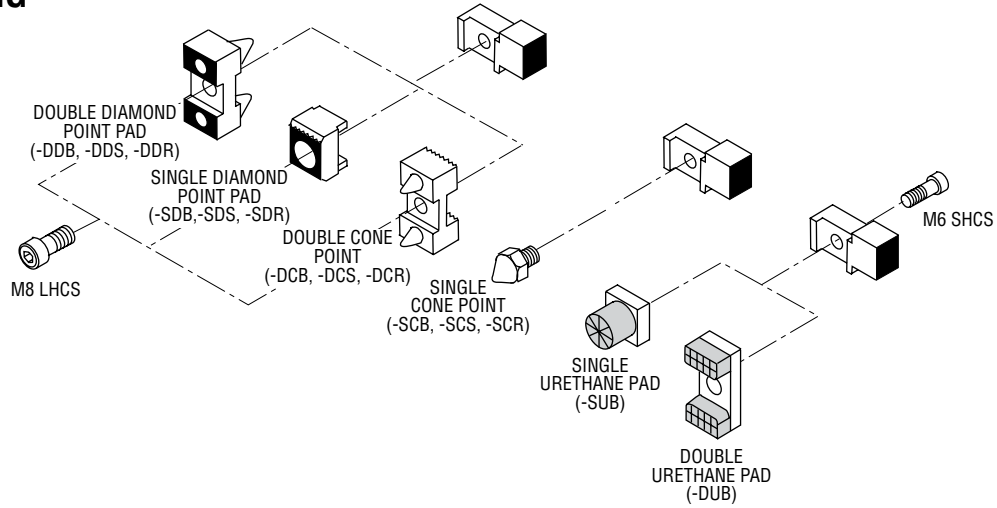
(See Notes 1 & 2)

NOTES:

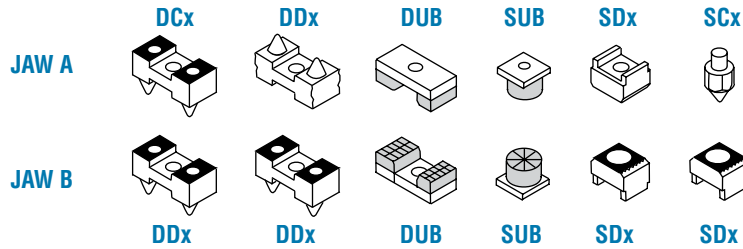
- 1) Cone point against cone point tip combinations are not allowed due to point overlap.
- 2) Red tips are available only on GRM size 2.

TIP MOUNTING: SHORT JAW STYLE "R"

TIP MOUNTING



RECOMMENDED TIP COMBINATIONS



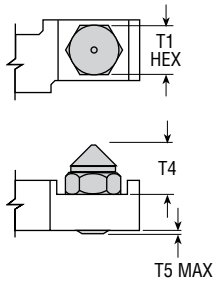
	Material Thickness		
	0 to 1.50 mm	1.51 to 3 mm	3.01 to 4 mm
Color	Black	Silver	Red
No tip	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCR
Double Cone Point	DCB	DCS	DCR
Single Diamond Point	SDB	SDS	SDR
Double Diamond Point	DDB	DDS	DDR
Single Urethane Pad	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB

	Material Thickness		
	0 to 1.50 mm	1.51 to 3 mm	3.01 to 4 mm
Color	Black	Silver	Red
No tip	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCR
Double Cone Point	DCB	DCS	DCR
Single Diamond Point	SDB	SDS	SDR
Double Diamond Point	DDB	DDS	DDR
Single Urethane Pad	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB

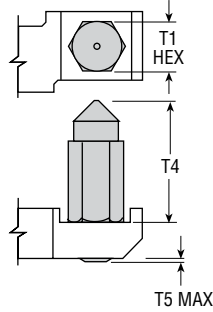
NOTE: Cone point against cone point tip combinations are not allowed due to point overlap.

TIP DIMENSIONS: SERIES GRM CLAMPS

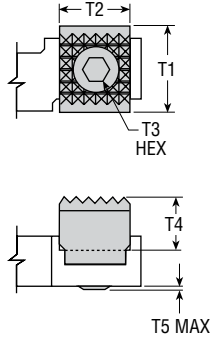
**-SCB, -SCS,
-SCG, -SCR**
SINGLE CONE POINT



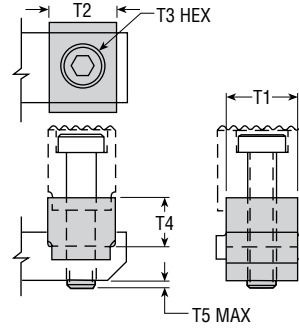
**-SCB, -SCS,
-SCG, -SCR**
SINGLE CONE POINT
(FOR JAW STYLE H ONLY)



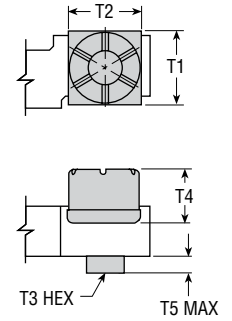
**-SDB, -SDS,
-SDG, -SDR**
SINGLE DIAMOND
POINT PAD



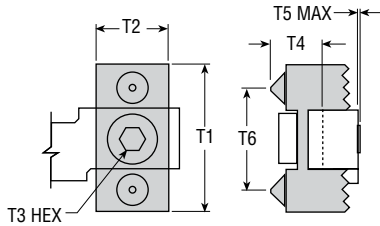
**TIP EXTENSION - FOR USE WITH:
-SDB, -SDS, -SDG, -SDR,
-DCB, -DCS, -DCG, -DCR,
-DDB, -DDS, -DDG, -DDR,
-SUB, -DUB**
(FOR JAW STYLES H & J ONLY)



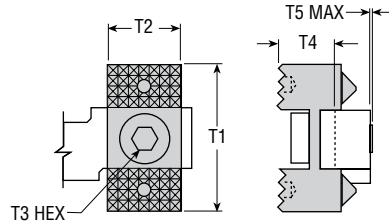
-SUB
SINGLE URETHANE PAD



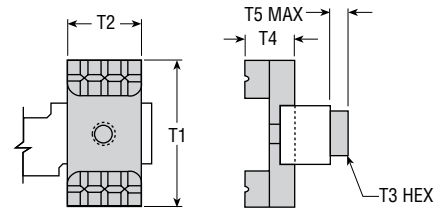
-DCB, -DCS, -DCG, -DCR
DOUBLE CONE POINT



-DDB, -DDS, -DDG, -DDR
DOUBLE DIAMOND POINT PAD



-DUB
DOUBLE URETHANE PAD



TIP DIMENSIONS: SERIES GRM CLAMPS

OPTION CODE	PART COLOR	UNIT SIZE	KIT NUMBER	LETTER DIMENSION											
				T1		T2		T3		T4		T5		T6	
				in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
-SCB	BLACK	2	GRM2-SCB-1	.511	13.0	—	—	—	—	.545	13.8	.039	1.0	—	—
		4	GRM4-SCB-1	.511	13.0	—	—	—	—	.804	20.4	.039	1.0	—	—
-SCS	SILVER	2	GRM2-SCS-1	.511	13.0	—	—	—	—	.520	13.2	.039	1.0	—	—
		4	GRM4-SCS-1	.511	13.0	—	—	—	—	.779	19.8	.039	1.0	—	—
-SCG	GOLD	2	GRM2-SCG-1	.511	13.0	—	—	—	—	.507	12.9	.039	1.0	—	—
		4	GRM4-SCG-1	.511	13.0	—	—	—	—	.766	19.5	.039	1.0	—	—
-SCR	RED	2	GRM2-SCR-1	.511	13.0	—	—	—	—	.497	12.6	.039	1.0	—	—
-SDB	BLACK	2	GRM2-SDB-1	.900	22.9	.750	19.0	.197	5.0	.535	13.6	.059	1.5	—	—
		4	GRM4-SDB-1	.984	25.0	.750	19.0	.197	5.0	.794	20.2	—	—	—	—
-SDS	SILVER	2	GRM2-SDS-1	.900	22.9	.750	19.0	.197	5.0	.510	13.0	.059	1.5	—	—
		4	GRM4-SDS-1	.984	25.0	.750	19.0	.197	5.0	.769	19.5	—	—	—	—
-SDG	GOLD	2	GRM2-SDG-1	.900	22.9	.750	19.0	.197	5.0	.497	12.6	.059	1.5	—	—
		4	GRM4-SDG-1	.984	25.0	.750	19.0	.197	5.0	.756	19.2	—	—	—	—
-SDR	RED	2	GRM2-SDR-1	.900	22.9	.750	19.0	.197	5.0	.487	12.4	.059	1.5	—	—
-SUB	BLACK	2	GRM2-SUB-1	.748	19.0	.748	19.0	.197	5.0	.535	13.6	.236	6.0	—	—
		4	GRM4-SUB-1	.748	19.0	.748	19.0	.197	5.0	.800	20.3	.236	6.0	—	—
-DCB	BLACK	2	GRM2-DCB-1	1.530	38.9	.750	19.0	.197	5.0	.555	14.1	.039	1.0	1.070	27.2
		4	GRM4-DCB-1	1.850	47.0	.750	19.0	.197	5.0	.804	20.4	—	—	1.375	35.0
-DCS	SILVER	2	GRM2-DCS-1	1.530	38.9	.750	19.0	.197	5.0	.530	13.5	.039	1.0	1.070	27.2
		4	GRM4-DCS-1	1.850	47.0	.750	19.0	.197	5.0	.779	19.8	—	—	1.375	35.0
-DCG	GOLD	2	GRM2-DCG-1	1.530	38.9	.750	19.0	.197	5.0	.517	13.1	.039	1.0	1.070	27.2
		4	GRM4-DCG-1	1.850	47.0	.750	19.0	.197	5.0	.766	19.5	—	—	1.375	35.0
-DCR	RED	2	GRM2-DCR-1	1.530	38.9	.750	19.0	.197	5.0	.507	12.9	.039	1.0	1.070	27.2
-ddb	BLACK	2	GRM2-ddb-1	1.530	38.9	.750	19.0	.197	5.0	.535	13.6	.039	1.0	—	—
		4	GRM4-ddb-1	1.850	47.0	.750	19.0	.197	5.0	.794	20.2	—	—	—	—
-dds	SILVER	2	GRM2-dds-1	1.530	38.9	.750	19.0	.197	5.0	.510	13.0	.039	1.0	—	—
		4	GRM4-dds-1	1.850	47.0	.750	19.0	.197	5.0	.769	19.5	—	—	—	—
-ddg	GOLD	2	GRM2-ddg-1	1.530	38.9	.750	19.0	.197	5.0	.497	12.6	.039	1.0	—	—
		4	GRM4-ddg-1	1.850	47.0	.750	19.0	.197	5.0	.756	19.2	—	—	—	—
-DDR	RED	2	GRM2-DDR-1	1.530	38.9	.750	19.0	.197	5.0	.487	12.4	.039	1.0	—	—
-DUB	BLACK	2	GRM2-DUB-1	1.530	38.9	.748	19.0	.197	5.0	.545	13.8	.236	6.0	—	—
		4	GRM4-DUB-1	1.850	47.0	.748	19.0	.197	5.0	.794	20.2	.236	6.0	—	—
-SCB*	BLACK	2	62148-37	.511	13.0	—	—	—	—	.992	25.2	.039	1.0	—	—
		4	62148-33	.511	13.0	—	—	—	—	1.344	34.1	.039	1.0	—	—
-SCS*	SILVER	2	62148-38	.511	13.0	—	—	—	—	.967	24.6	.039	1.0	—	—
		4	62148-34	.511	13.0	—	—	—	—	1.319	33.5	.039	1.0	—	—
-SCG*	GOLD	2	62148-39	.511	13.0	—	—	—	—	.954	24.2	.039	1.0	—	—
		4	62148-36	.511	13.0	—	—	—	—	1.306	33.2	.039	1.0	—	—
-SCR*	RED	2	62148-47	.511	13.0	—	—	—	—	.944	24.0	.039	1.0	—	—
TIP EXT.**	—	2	62148-40	.680	16.0	.750	19.0	.197	5.0	.451	11.6	—	—	—	—
	—	4	62148-35	.785	19.9	.750	19.0	.197	5.0	.540	13.7	.130	3.3	—	—

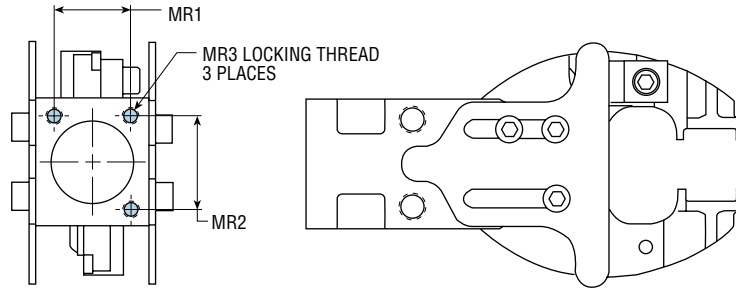
* FOR USE WITH JAW STYLE H ONLY ** FOR USE WITH JAW STYLES H & J ONLY

MOUNTING THREAD DIMENSIONS: SERIES GRM CLAMPS

REAR MOUNTING THREADS

STANDARD IN ALL CLAMPS

GRM2 T

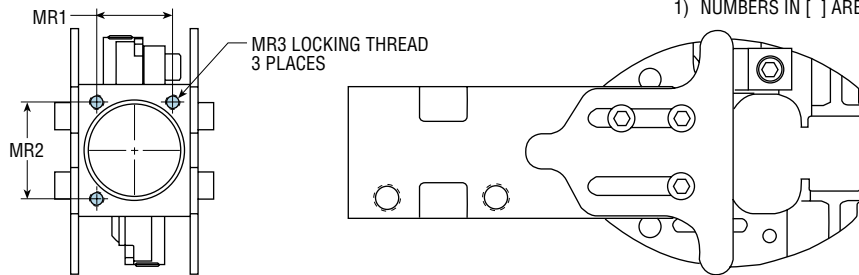


LETTER DIM	MODEL NUMBER			
	GRM2Tx		GRM4Tx	
MR1	1.122	28.5	1.496	38.0
MR2	1.398	35.5	1.693	43.0
MR3	M6 x 1.0 x .413 [10.5] DP		M8 x 1.25 x .512 [13.0] DP	

NOTE:

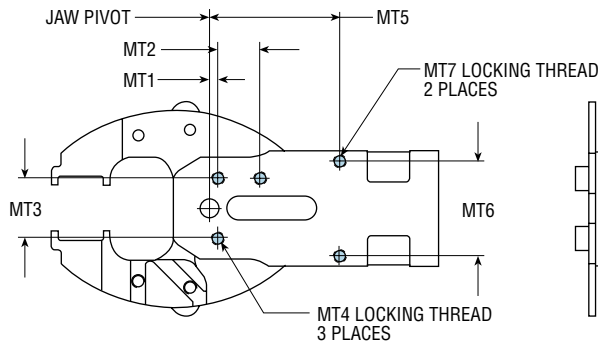
1) NUMBERS IN [] ARE FOR METRIC UNITS AND ARE IN mm.

GRM4 T

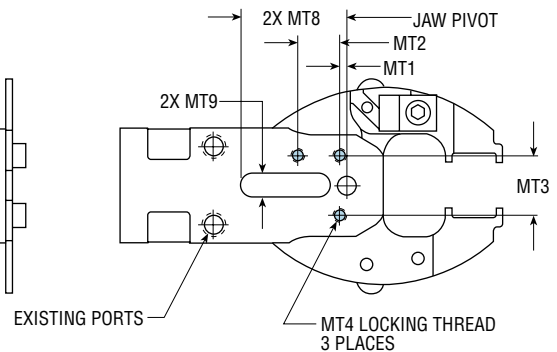


OTHER POSSIBLE MOUNTING THREADS

ALL GRM JAW STYLES (including Flange Jaw Style)



ALL GRM JAW STYLES (excluding Flange Jaw Style)



NOTES:

- 1) THE IMPACT PLATES HOLD THE PINS, JAW BUSHING, AND SLIDER BUSHINGS IN PLACE. TAKE CARE NOT TO LOSE THEM IF THE COVERS ARE REMOVED. IF AN IMPACT PLATE IS REPLACED BY A CUSTOMER MOUNTING PLATE, THE PIVOT PIN AND SLIDER BUSHING SLOT MUST BE COVERED WITH A SMOOTH SURFACE TO CONTAIN THE PARTS.
- 2) FASTENERS THAT ATTACH CUSTOM PLATES MUST NOT BE THREADED INTO THE SIDES OF THE BODY MORE THAN 8 mm OR THEY MAY INTERFERE WITH AND DAMAGE THE JAWS.
- 3) NUMBERS IN [] ARE FOR METRIC UNITS AND ARE IN mm.

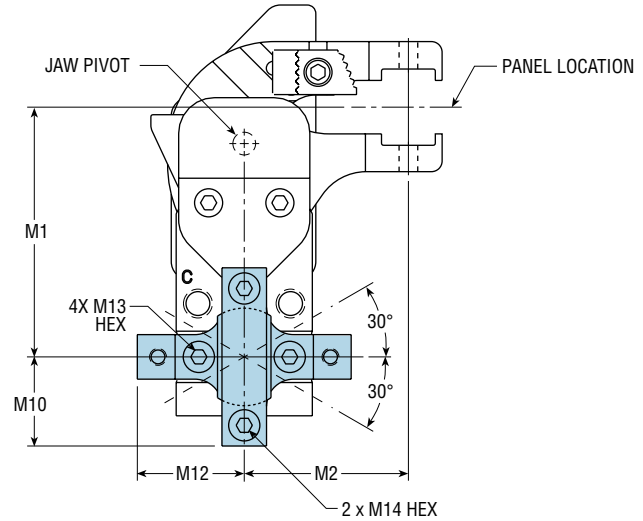
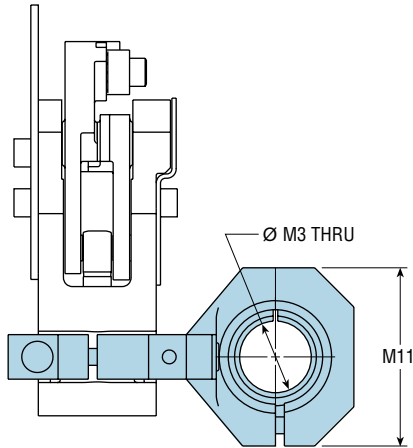
LETTER DIM	MODEL NUMBER			
	GRM2xx		GRM4xx	
MT1	.131	3.3	.216	5.5
MT2	.700	17.8	1.000	25.4
MT3	1.000	25.4	1.400	35.6
MT4	M6 x 1.0 x .315 [8.0] DP		M6 x 1.0 x .354 [9.0] DP	
MT5	2.159	54.8	3.026	76.9
MT6	1.586	40.3	1.250	31.8
MT7	M6 x 1.0 x .250 [6.3] DP		M6 x 1.0 x .472 [12.0] DP	
MT8	1.783	45.3	2.520	64.0
MT9	.374	9.5	.465	11.8

MOUNTING BRACKET DIMENSIONS: SERIES GRM CLAMPS

90° SPHERICAL MOUNTING BRACKET

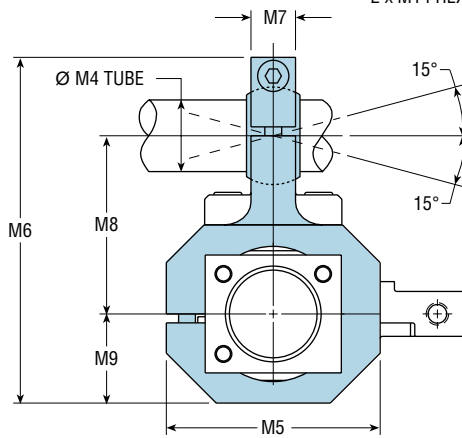
GRMx **C**

GRM
Clamps



LETTER DIM	MODEL NUMBER			
	GRM2Cx		GRM4Cx (GRM2Cx-B08)	
	in	mm	in	mm
M1	3.504	89.0	3.976	101.0
M2	2.303	58.5	2.303	58.5
M3*	1.006	25.13	1.006	25.13
M4	1.000	25.0	1.000	25.0
M5	3.000	76.2	3.500	88.9
M6	4.850	123.2	5.900	149.9
M7	.800	20.3	.800	20.3
M8	2.500	63.5	3.350	85.1
M9	1.250	31.8	1.450	36.8
M10	1.250	31.8	1.750	44.5
M11	2.500	63.5	2.500	63.5
M12	1.500	38.1	1.250	31.8
M13	.197	5.0	.197	5.0
M14	.236	6.0	.236	6.0

*TOLERANCE FOR M3 = ± .001 [±0.03]



NOTES:

- 1) NUMBERS IN [] ARE FOR METRIC UNITS AND ARE IN mm.
- 2) BRACKET MAY ROTATE 360° ABOUT M4 TUBE AND CLAMP BODY.

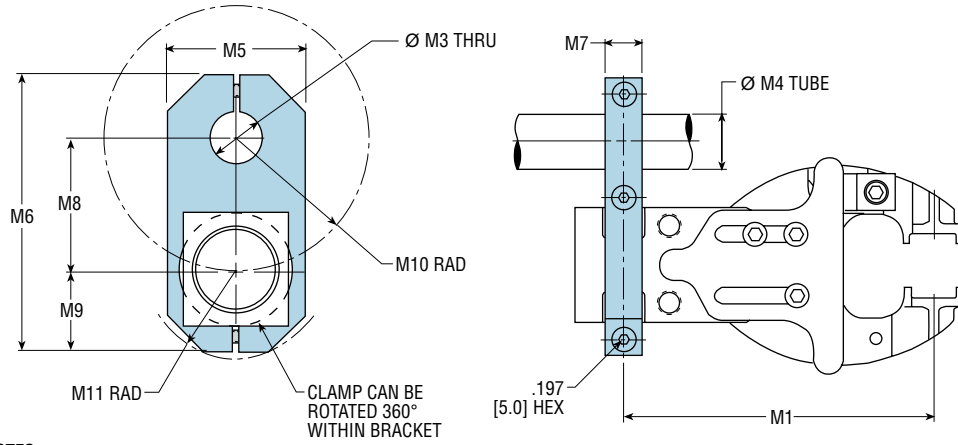
KIT DESCRIPTION	KIT NUMBER			
	GRM2Cx		GRM4Cx (GRM2Cx-B08)	
	IMPERIAL	METRIC	IMPERIAL	METRIC
90° SPHERICAL MOUNTING BRACKET	64658-02	64658-03	64658-04	64658-05

All dimensions are reference only unless specifically tolerated.

MOUNTING BRACKET DIMENSIONS: SERIES GRM CLAMPS

NON-SPHERICAL MOUNTING BRACKET

GRMx **R**



NOTES:

- 1) NUMBER IN [] ARE FOR METRIC UNITS AND ARE IN mm.
- 2) BRACKET MAY ROTATE 360° ABOUT M4 TUBE.

LETTER DIM	MODEL NUMBER					
	GRM2Rx		GRM2RR		GRM4Rx	
	in	mm	in	mm	in	mm
M1	5.138	130.5	4.448	113.0	6.969	177.0
M3*	1.006	25.15	1.006	25.15	1.006	25.15
M4	1.000	25.0	1.000	25.0	1.000	25.0
M5	2.244	57.0	2.244	57.0	2.618	66.5
M6	5.197	132.0	5.197	132.0	5.315	135.0
M7	.625	15.9	.625	15.9	.750	19.1
M8	2.500	63.5	2.500	63.5	2.500	63.5
M9	1.476	37.5	1.476	37.5	1.594	40.5
M10	2.500	63.5	2.500	63.5	2.500	63.5
M11	1.565	39.8	1.565	39.8	1.707	43.4

* - TOLERANCE FOR M3 = ±.006 [±0.15]

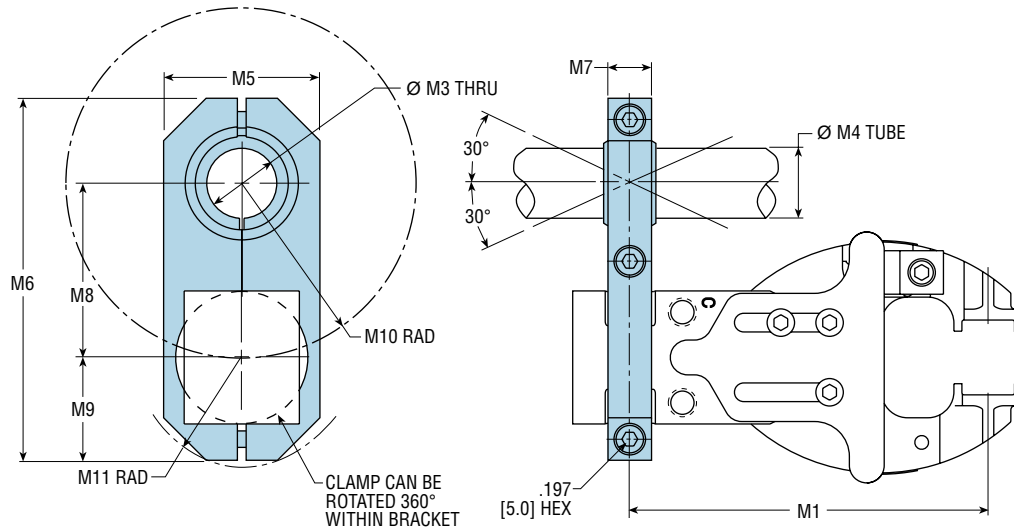
KIT DESCRIPTION	KIT NUMBER			
	GRM2Rx		GRM4Rx	
	IMPERIAL	METRIC	IMPERIAL	METRIC
NON-SPHERICAL MOUNTING BRACKET	62149-02	62196-02	64646-02	64648-02

MOUNTING BRACKET DIMENSIONS: SERIES GRM CLAMPS

SPHERICAL MOUNTING BRACKET

GRMx **S**

GRMx **W**



NOTES:

- 1) NUMBER IN [] ARE FOR METRIC UNITS AND ARE IN mm.
- 2) BRACKET MAY ROTATE 360° ABOUT M4 TUBE.
- 3) W IS FOR OVERSIZE SPHERICAL MOUNTING BRACKET.

LETTER DIM	MODEL NUMBER					
	GRM2Sx		GRM2SR		GRM4Sx	
	in	mm	in	mm	in	mm
M1	5.138	130.5	4.448	113.0	6.969	177.0
M3*	1.006	25.13	1.006	25.13	1.006	25.13
M4	1.000	25.0	1.000	25.0	1.000	25.0
M5	2.244	57.0	2.244	57.0	2.618	66.5
M6	5.197	132.0	5.197	132.0	5.315	135.0
M7	.625	15.9	.625	15.9	.750	19.1
M8	2.500	63.5	2.500	63.5	2.500	63.5
M9	1.476	37.5	1.476	37.5	1.594	40.5
M10	2.500	63.5	2.500	63.5	2.500	63.5
M11	1.565	39.8	1.565	39.8	1.707	43.4

* TOLERANCE FOR M3 = ±.001 [±0.03]

LETTER DIM	MODEL NUMBER					
	GRM2Wx		GRM2WR		GRM4Wx	
	in	mm	in	mm	in	mm
M1	5.138	130.5	4.448	113.0	6.969	177.0
M3*	1.258	33.93	1.258	33.93	1.258	33.93
M4**	1.250	33.3	1.250	33.3	1.250	33.3
M5	2.618	66.5	2.618	66.5	2.618	66.5
M6	6.064	154.0	6.064	154.0	6.299	160.0
M7	.625	15.9	.625	15.9	.750	19.1
M8	3.130	79.5	3.130	79.5	3.130	79.5
M9	1.476	37.5	1.476	37.5	1.711	43.5
M10	3.130	79.5	3.130	79.5	3.130	79.5
M11	1.565	39.8	1.565	39.8	1.816	46.1

* TOLERANCE FOR M3 = ±.002 [±0.05]

**TOLERANCE FOR [33.3] = [+0.5/-0.0]

KIT DESCRIPTION	KIT NUMBER			
	GRM2Sx		GRM4Sx	
	IMPERIAL	METRIC	IMPERIAL	METRIC
SPHERICAL MOUNTING BRACKET	62149-01	62196-01	64646-01	64648-01

KIT DESCRIPTION	KIT NUMBER			
	GRM2Wx		GRM4Wx	
	IMPERIAL	METRIC	IMPERIAL	METRIC
OVERSIZE SPHERICAL MOUNTING BRACKET	62201-01	62201-03	64647-01	64649-01

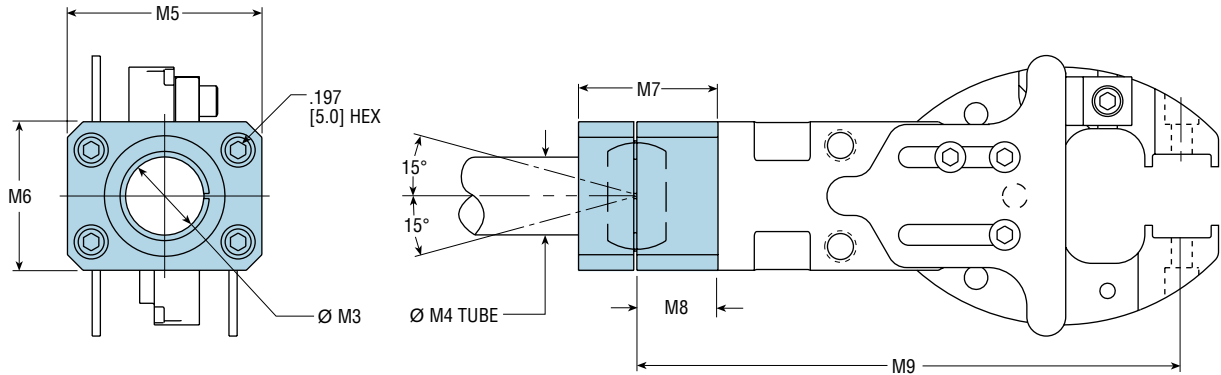
All dimensions are reference only unless specifically tolerated.

MOUNTING BRACKET DIMENSIONS: SERIES GRM CLAMPS

REAR SPHERICAL MOUNTING BRACKET

GRMx **A**

GRMx **B**



NOTES:

- 1) THE SPHERICAL FUNCTION CAN BE ELIMINATED BY ALIGNING THE TUBE WITH THE CLAMP CENTERLINE AND PUSHING IT IN UNTIL IT BOTTOMS. AT THIS POINT, THE TUBE CAN SPIN, BUT NOT SWIVEL THE 15°.
- 2) NUMBERS IN [] ARE FOR METRIC UNITS AND ARE IN mm.
- 3) TUBE CAN SPIN 360° ABOUT M4 TUBE.
- 4) B IS FOR OVERSIZE REAR SPHERICAL MOUNTING BRACKET

LETTER DIM	MODEL NUMBER					
	GRM2Ax		GRM2AR		GRM4Ax	
	in	mm	in	mm	in	mm
M3*	1.006	25.13	1.006	25.13	1.006	25.13
M4	1.000	25.0	1.000	25.0	1.000	25.0
M5	2.500	63.5	2.500	63.5	3.000	76.2
M6	1.910	48.5	1.910	48.5	2.240	56.9
M7	1.791	45.5	1.791	45.5	1.791	45.5
M8	1.043	26.5	1.043	26.5	1.043	26.5
M9	7.008	178.0	6.318	160.5	9.646	245.0

* TOLERANCE FOR M3 = ±.001 [±0.03]

LETTER DIM	MODEL NUMBER					
	GRM2Bx		GRM2BR		GRM4Bx	
	in	mm	in	mm	in	mm
M3*	1.258	33.93	1.258	33.93	1.258	33.93
M4**	1.250	33.3	1.250	33.3	1.250	33.3
M5	3.000	76.2	3.000	76.2	3.000	76.2
M6	2.240	56.9	2.240	56.9	2.500	63.5
M7	2.087	53.0	2.087	53.0	2.087	53.0
M8	1.305	33.1	1.305	33.1	1.305	33.1
M9	7.270	184.7	6.580	167.1	9.908	251.7

* TOLERANCE FOR M3 = ±.002 [±0.05]

**TOLERANCE FOR [33.3] = [+0.5/-0.0]

KIT DESCRIPTION	KIT NUMBER			
	GRM2Ax		GRM4Ax	
	IMPERIAL	METRIC	IMPERIAL	METRIC
REAR SPHERICAL MOUNTING BRACKET	65008-03	65008-05	65008-04	65008-06

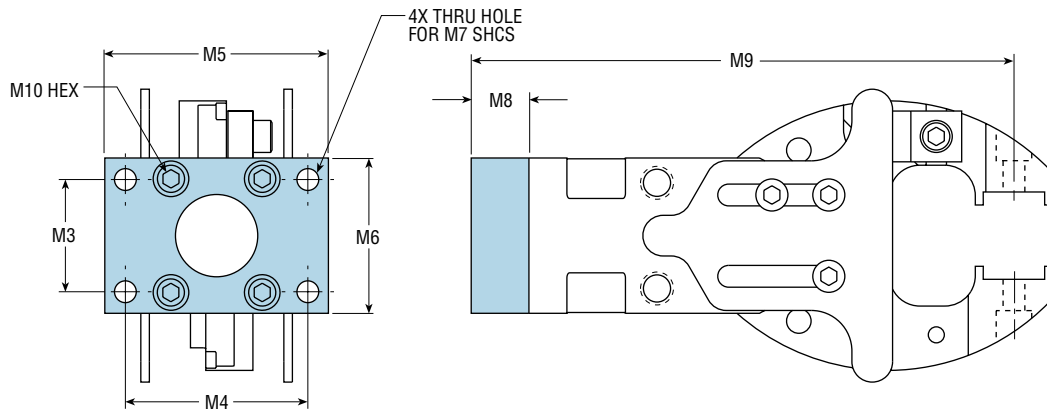
KIT DESCRIPTION	KIT NUMBER			
	GRM2Bx		GRM4Bx	
	IMPERIAL	METRIC	IMPERIAL	METRIC
OVERSIZE REAR SPHERICAL MOUNTING BRACKET	65016-03	65016-04	65016-05	65016-06

MOUNTING BRACKET DIMENSIONS: SERIES GRM CLAMPS

REAR MOUNTING PLATE

GRMx **P**

GRM
Clamps



NOTE:

1) NUMBERS IN [] ARE FOR METRIC UNITS AND ARE IN mm.

LETTER DIM	MODEL NUMBER					
	GRM2Px		GRM2PR		GRM4Px	
	in	mm	in	mm	in	mm
M3	1.380	35.1	1.380	35.1	1.890	48.0
M4	2.244	57.0	2.244	57.0	2.992	76.0
M5	2.750	69.9	2.750	69.9	3.750	95.3
M6	1.910	48.5	1.910	48.5	2.500	63.5
M7	1/4	M6	1/4	M6	5/16	M8
M8	.710	18.0	.710	18.0	.846	21.5
M9	6.675	169.5	5.985	152.0	9.154	232.5
M10	.197	5.0	.197	5.0	.236	6.0

KIT DESCRIPTION	KIT NUMBER			
	GRM2Px		GRM4Px	
	IMPERIAL	METRIC	IMPERIAL	METRIC
REAR MOUNTING PLATE	65004-03	65004-03	65004-04	65004-04

All dimensions are reference only unless specifically tolerated.

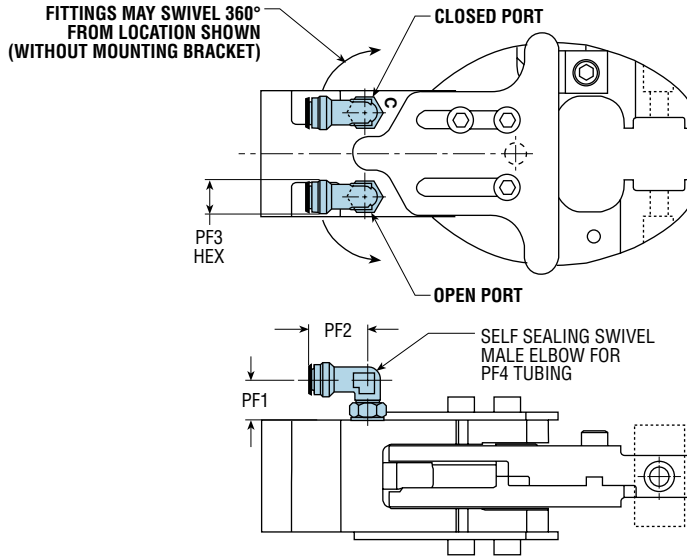
PORT FITTING DIMENSIONS: SERIES GRM CLAMPS

-LAA OPTION - Metal Fittings

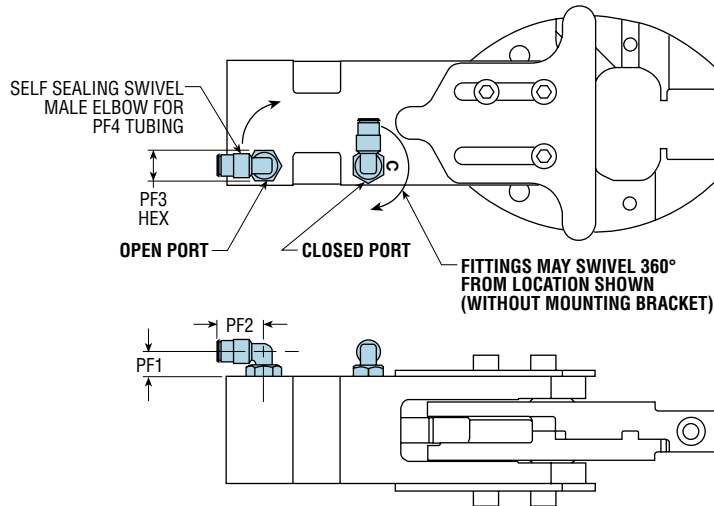
-LBB OPTION - Plastic Fittings

-LCC OPTION - Metal Fittings

SIZE 2



SIZE 4



NOTE: CLOSED PORTS ARE MARKED WITH THE LETTER C.

LETTER DIMENSION	PORT FITTING OPTION	
	in	mm
PF1 (MIN)	.629	15.0
PF1 (MAX)	.748	19.0
PF2	.885	22.0
PF3 - LAA	.472	12.0
- LBB	.437	11.1
- LCC	.472	12.0
PF4 - LAA	1/4	6.0
- LBB	1/4	6.0
- LCC	—	8.0

TO ORDER FITTING SEPARATELY,

FOR LAA OPTION:

PART NO. 62178-003 -IMPERIAL

PART NO. 62195-005 -METRIC

FOR LBB OPTION:

PART NO. 71120-001 -IMPERIAL

PART NO. 71121-001 -METRIC

FOR LCC OPTION:

PART NO. 62195-007 -METRIC

Accessories



Double Sheet Detection



Flat Proximity Switch



Panel Present Detection



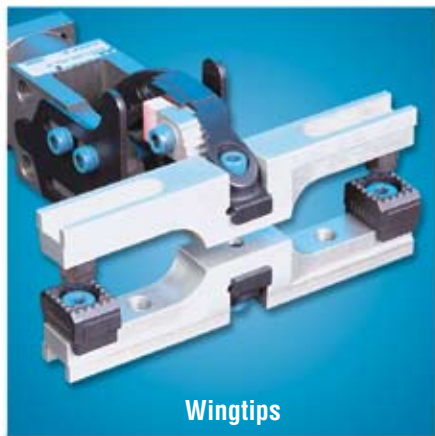
Blade Mounting



Various Tips



Spherical Mounting



Wingtips



30° Tips

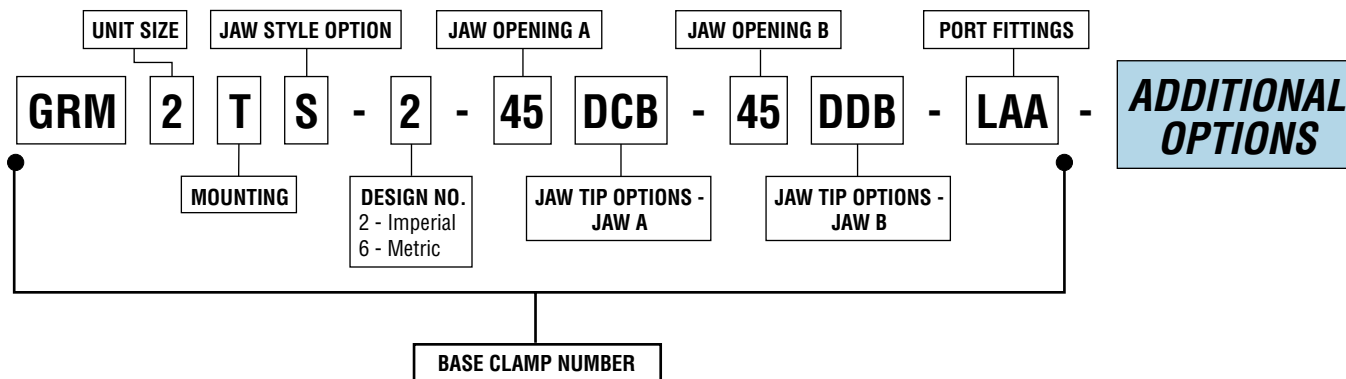


Duckbills

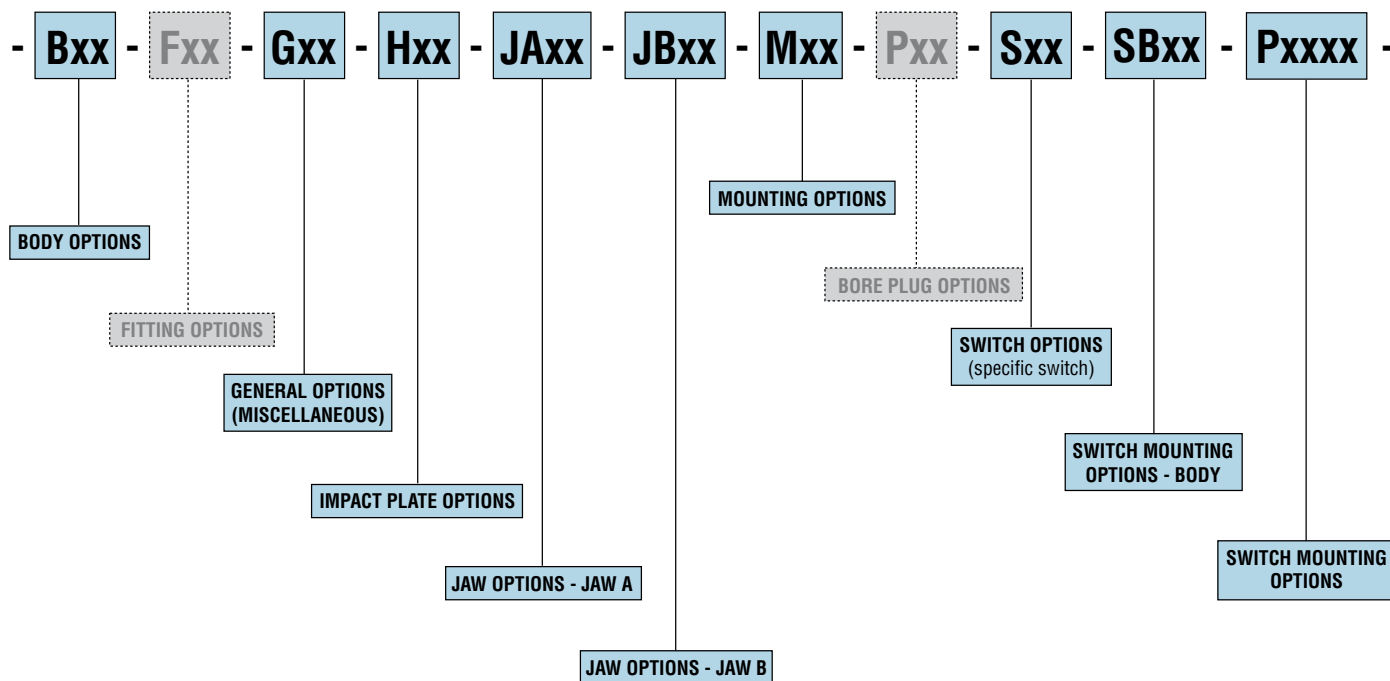
Pricing subject to change. Consult local distributor for current pricing.

ORDERING DATA: CLAMP ACCESSORIES

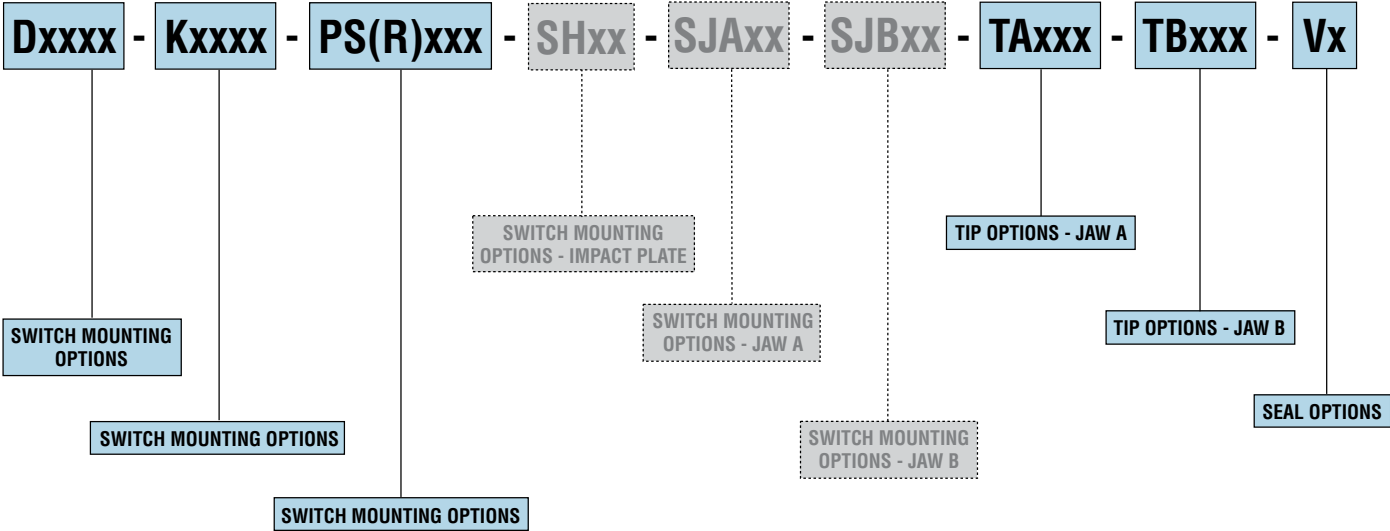
Example:



ADDITIONAL



OPTIONS



NOTE:

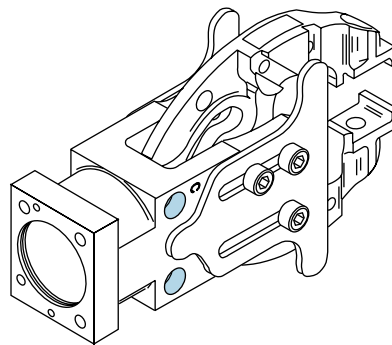
UNAVAILABLE OPTIONS AT PUBLISHING TIME

BODY OPTIONS: CLAMP ACCESSORIES

B04

LARGER PORT ORIFICES

This option enlarges both port orifices in the body. It allows the jaws to open or close much faster than standard. Expect 22° clamps to open or close faster than 45° clamps, and 45° clamps to open or close faster than 75° clamps.



AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$7.50

Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -B04

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

BODY PART NUMBER AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	JAW STYLE	PORTS		LIST PRICE
		IMPERIAL	METRIC	
2	C, D, H, J, N, P, R, & S	65312-11	65312-12	\$85.50
	F & K	65314-11	65314-12	\$117.65

BODY OPTIONS: CLAMP ACCESSORIES

B05

BLADE MOUNTING

This option provides mounting that interchanges with Destaco 84A32 series clamps. The body sides have mounting grooves with two M6 threads per side. The rear surface of the body has four M6 threads. The ports have been moved to position 2. Jaw styles C, D, G, H, J, N, P, R, S, F, and K are available with the B05 body. For jaw dimensions from the pivot pin forward, see the Series GRM section. Mounts R, S, W, A, B, P, and C do not fit on a B05 body.

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	B05	\$64.75

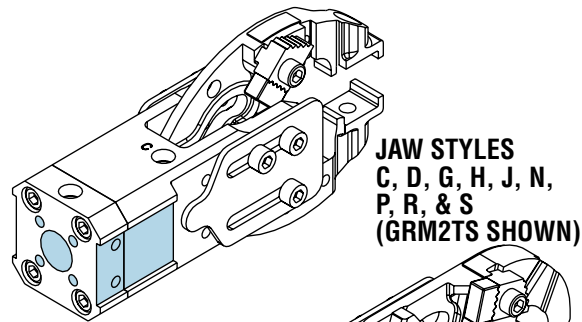
Example Ordering Data:

GRM2 **T** S-2-45DCB-45DDB -LAA **-B05**

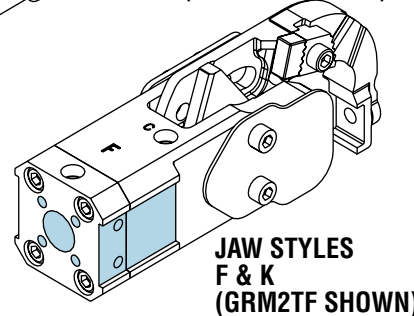
SHADED CODES are required for this option.

All unshaded model codes are example only.

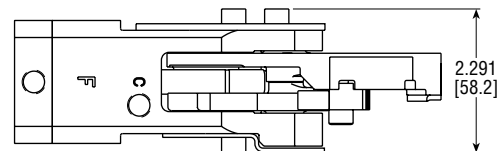
For compatibility with other units, consult PHD.



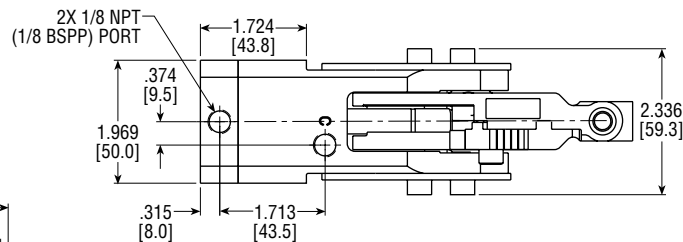
**JAW STYLES
C, D, G, H, J, N,
P, R, & S
(GRM2TS SHOWN)**



**JAW STYLES
F & K
(GRM2TF SHOWN)**

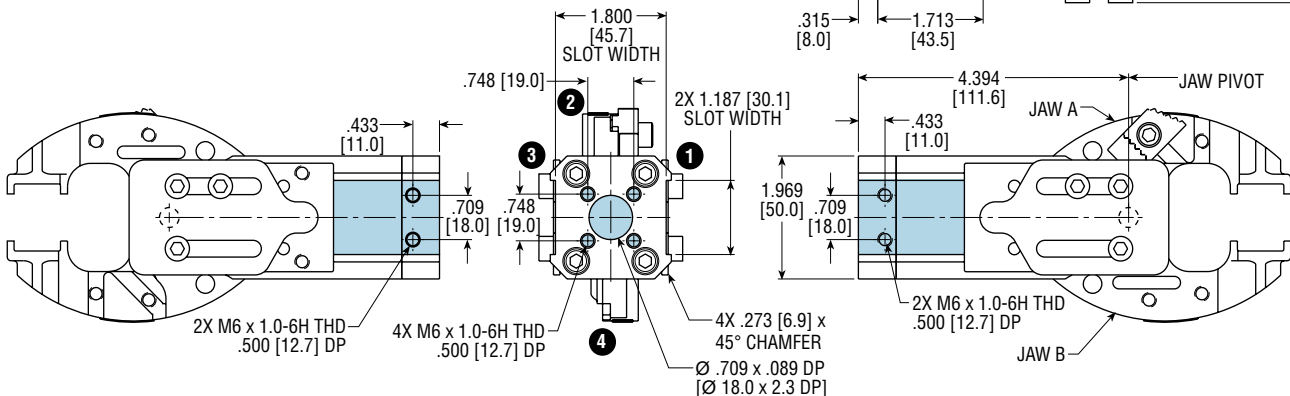


F AND K STYLE JAWS ONLY



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 2 IS PORT SIDE OF CLAMP).



BODY KIT NUMBERS

CLAMP SIZE & MODEL	OPTION	LIST PRICE	
		IMPERIAL	METRIC
2xC, D, G, H, J, N, P, R, & S	B05	65321-03 \$131.35	65321-04 \$131.35
2xF & K	B05	65321-05 \$140.95	65321-06 \$139.70

IMPACT PLATE KITS

CLAMP SIZE & MODEL	IMPACT PLATE EARS	KIT NUMBER	LIST PRICE
2xC, D, G, H, J, N, P, R, & S	0 ears	63967-04	\$9.50
2xF & K	0 ears	63967-05	\$19.05

Kit includes:

- 1 Body and Cap
- 1 Cap Seal and 1 Rod Seal
- 4 Cap Mounting Screws

Kits replace items #1, 3, 4, and 18 of the part breakdown of the appropriate clamp. See GRM Clamp section.

Kit includes:

- 2 Impact Plates
- Mounting Screws

Kits replace items #5 and 14 of the part breakdown of the appropriate clamp. See GRM Clamp section.

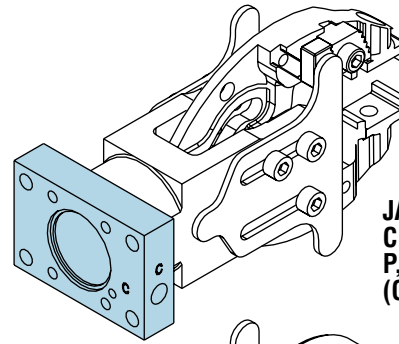
For non-standard impact plate kits, see Impact Plates section.

Pricing subject to change. Consult local distributor for current pricing.

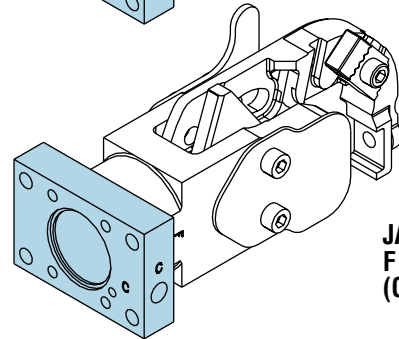
BODY OPTIONS: CLAMP ACCESSORIES

B06 REAR PLATE MOUNT WITH SIDE PORTS

This option provides a rear mounting plate integral to the body, ports are located on the sides of the plate. The rear surface has four M6 threads identical to the T mount and four thru holes identical to the P mount. Overall length is .55 in [14.0 mm] shorter than a standard body with a bolt on P mounting plate. The one piece body is compatible with R, S, W, A & B mounts.



**JAW STYLES
C, D, G, H, J, N,
P, R, & S
(GRM2TS SHOWN)**



**JAW STYLES
F & K
(GRM2TF SHOWN)**

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	B06	\$24.70

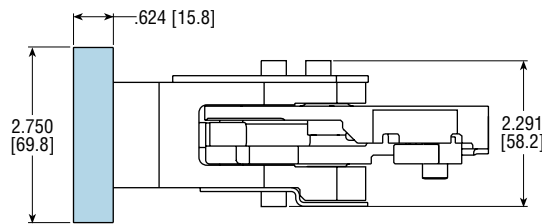
Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -B06

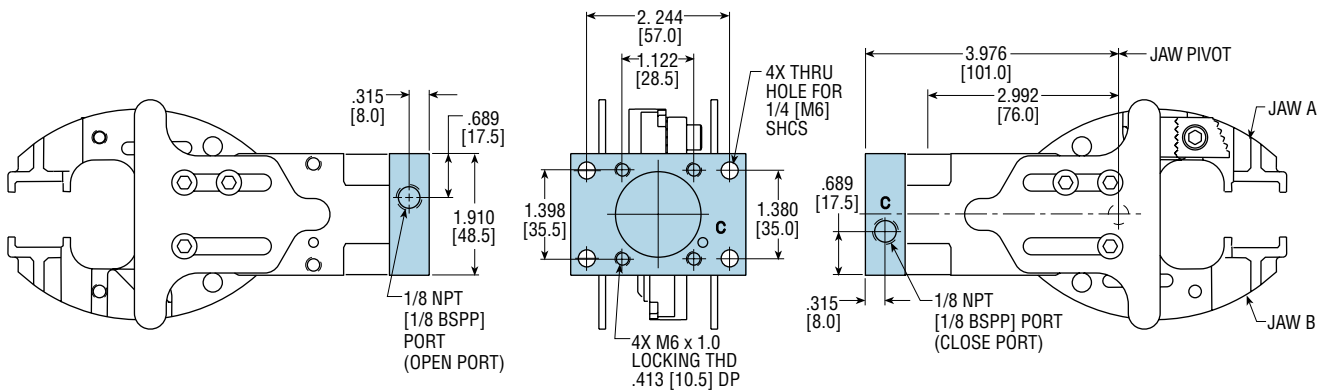
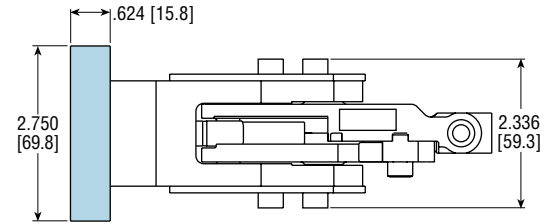
SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



F & K STYLES ONLY



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

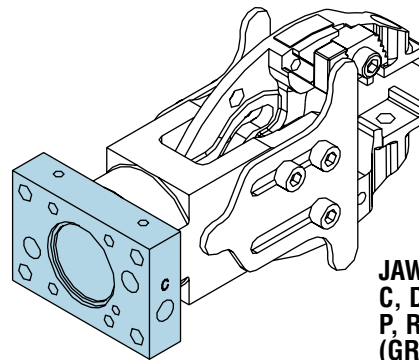
CLAMP SIZE & MODEL	ACCESSORY	BODY ASSEMBLY NO.		LIST PRICE
		IMPERIAL	METRIC	
2xC, D, G, H, J, N, P, R, & S	B06	65337-11	65337-12	\$97.45
2xF & K	B06	65338-11	65338-12	\$129.60

BODY OPTIONS: CLAMP ACCESSORIES

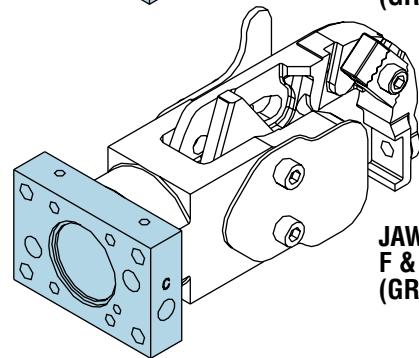
B07 REAR PLATE MOUNT WITH REAR PORTS

This option provides a rear mounting plate integral to the body, ports are located on the rear and sides of the plate. Removable port plugs are installed in the side ports, with the rear ports open.

The rear surface has four M6 threads identical to the T mount and four thru holes identical to the P mount. Overall length is .55 in [14.0 mm] shorter than a standard body with a bolt on P mounting plate. The one piece body is compatible with R, S, W, A & B mounts.



**JAW STYLES
C, D, G, H, J, N,
P, R, & S
(GRM2TS SHOWN)**



**JAW STYLES
F & K
(GRM2TF SHOWN)**

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	B07	\$36.05

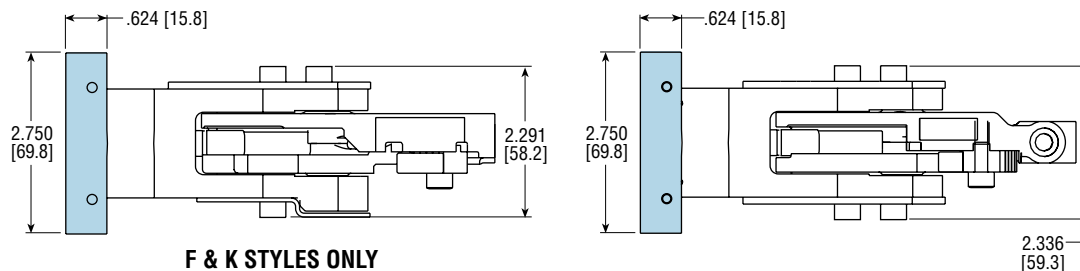
Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -B07

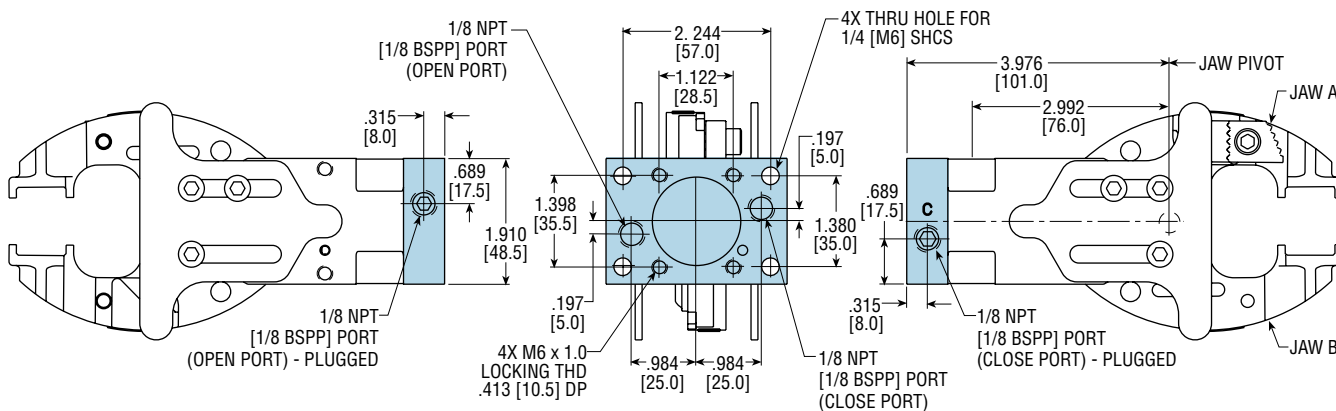
SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



F & K STYLES ONLY



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

**REPLACEMENT KIT NUMBERS AND PRICES
IF ORDERED SEPARATELY**

CLAMP SIZE & MODEL	ACCESSORY	BODY ASSEMBLY NO.		LIST PRICE
		IMPERIAL	METRIC	
2xC, D, G, H, J, N, P, R, & S	B07	65341-11	65341-12	\$108.25
2xF & K	B07	65342-11	65342-12	\$140.40

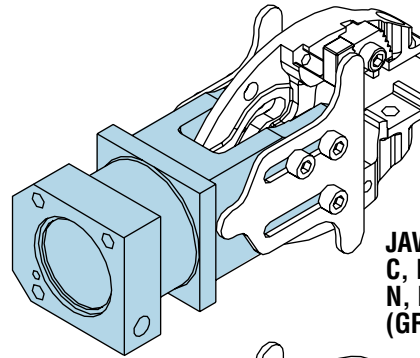
Pricing subject to change. Consult local distributor for current pricing.

BODY OPTIONS: CLAMP ACCESSORIES

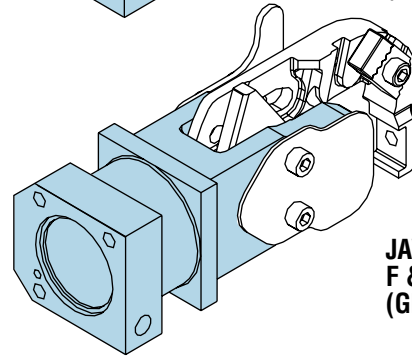
B08 HIGH FORCE CLAMP "2 X 4"

This option provides a clamp with more force (460 lb [2046 N] with an S jaw style, 360 lb [1601 N] with a K jaw style). The cylinder portion of the clamp body houses a larger cylinder providing more clamp force with little added size and only a .45 lb [0.2 kg] weight adder over GRM2 clamps.

Jaw styles C, D, G, H, J, N, P, R, S, F, and K are available with the B08 body. For jaw dimensions from the pivot pin forward, see the Series GRM section. All GRM2 standard and accessory tips fit the B08. The larger cylinder requires the larger GRM4 mounting brackets.



**JAW STYLES
C, D, G, H, J,
N, P, R, & S
(GRM2TS SHOWN)**



**JAW STYLES
F & K
(GRM2TF SHOWN)**

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	B08	\$49.50

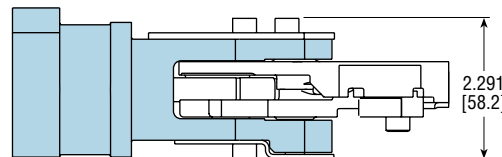
Example Ordering Data:

GRM 2 SS-2-45DCB-45DDB-LAA -B08

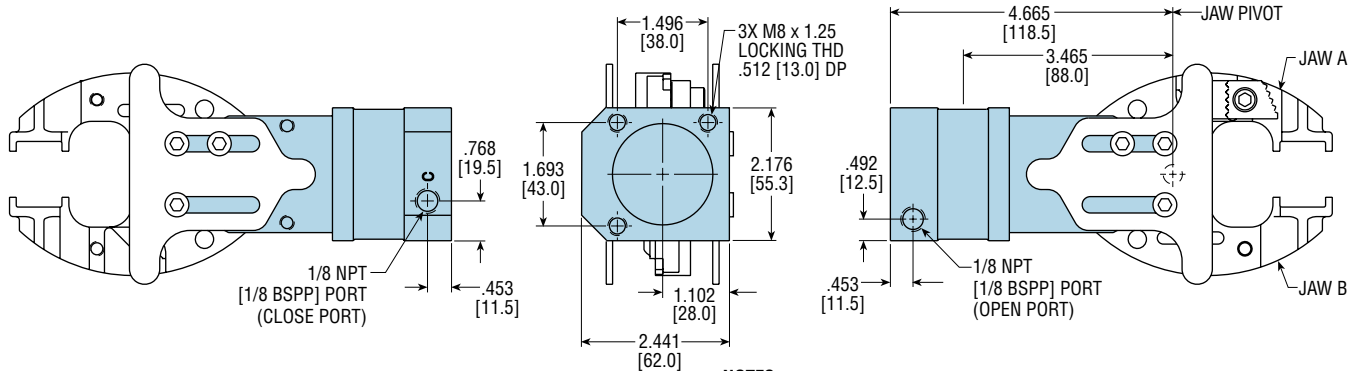
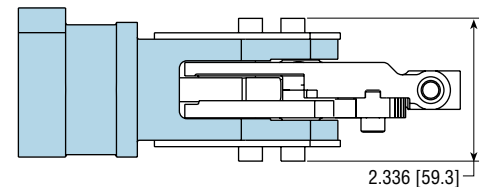
SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



F & K STYLES ONLY



- NOTES:**
 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED
 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

SPECIFICATIONS

CLAMP SIZE & MODEL	WEIGHT ADDER		TOTAL CLAMP FORCE at 87 psi [6 bar]		DISPLACEMENT			
	lb	kg	lb	N	OPEN		CLOSE	
					in ³	cm ³	in ³	cm ³
2xC, D, G, H, J, N, P, & S	.45	0.20	460	2046	1.95	32	1.83	30
2xR	.45	0.20	676	3007	1.95	32	1.83	30
2xK	.45	0.20	360	1601	1.95	32	1.83	30
2xF	.45	0.20	460	2046	1.95	32	1.83	30

NOTE:

- For tips, use GRM2 weights, dimensions, and kit numbers.
- For mounting brackets, use GRM4 weights, dimensions, and kit numbers.

MOUNTING BRACKET KIT NUMBERS (use size 4 brackets)

MOUNTING STYLE	IMPERIAL	METRIC
T	none (std)	none (std)
A	65008-04	65008-06
B	65016-05	65016-06
C	64658-04	64658-05
P	65004-04	65004-04
R	64646-02	64648-02
S	64646-01	64648-01
W	64647-01	64649-01

BODY OPTIONS: CLAMP ACCESSORIES

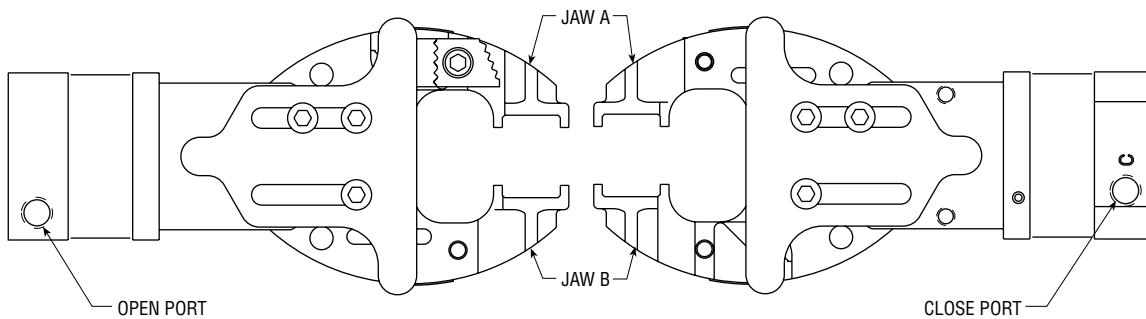
REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE & MODEL	ACCESSORY	BODY ASSEMBLY NO.		LIST PRICE
		IMPERIAL	METRIC	
2xC, D, G, H, J, N, P, R, & S 2xF & K	B08	65344-11	65344-12	\$124.45
	B08	65345-11	65345-12	\$124.45

PRICING EXAMPLE

GRM2SS-2-45DCB-45DDB-LAA-B08

1	Base Price for GRM2TS-2-45-45 always use T mounting (standard mounting) =	388.50
2	Adder for DCB tip (adder x 2 for 2 tips) =	50.30
3	Adder for mounting bracket (size 4) =	48.20
4	Adder for port fittings =	6.80
5	Adder for B08 accessory =	49.50
LIST PRICE =		\$543.30



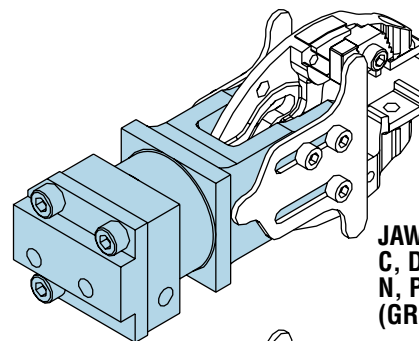
BODY OPTIONS: CLAMP ACCESSORIES

B08A

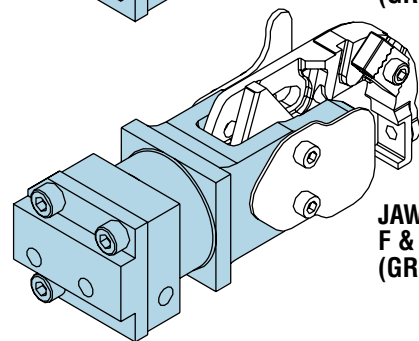
HIGH FORCE CLAMP "2 X 4" W/REAR PORTS

This option provides a clamp with more force (see specification table below) and ports located in the slides and rear of the clamp. Removable port plugs are installed in the side ports, with the rear ports open. The cylinder portion of the clamp body houses a larger cylinder providing more clamp force with little added size and only a .82 lb [0.37 kg] weight adder over GRM2 clamps.

Jaw styles C, D, G, H, J, N, P, R, S, F, and K are available with the B08A accessory. For jaw dimensions from the pivot pin forward, see the Series GRM section. All GRM2 standard and accessory tips fit the B08A. The larger cylinder requires the larger GRM4 mounting brackets. (Mounting style A, B, and P are **NOT** available with this accessory.)



**JAW STYLES
C, D, G, H, J,
N, P, R, & S
(GRM2TS SHOWN)**



**JAW STYLES
F & K
(GRM2TF SHOWN)**

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	B08A	\$72.05

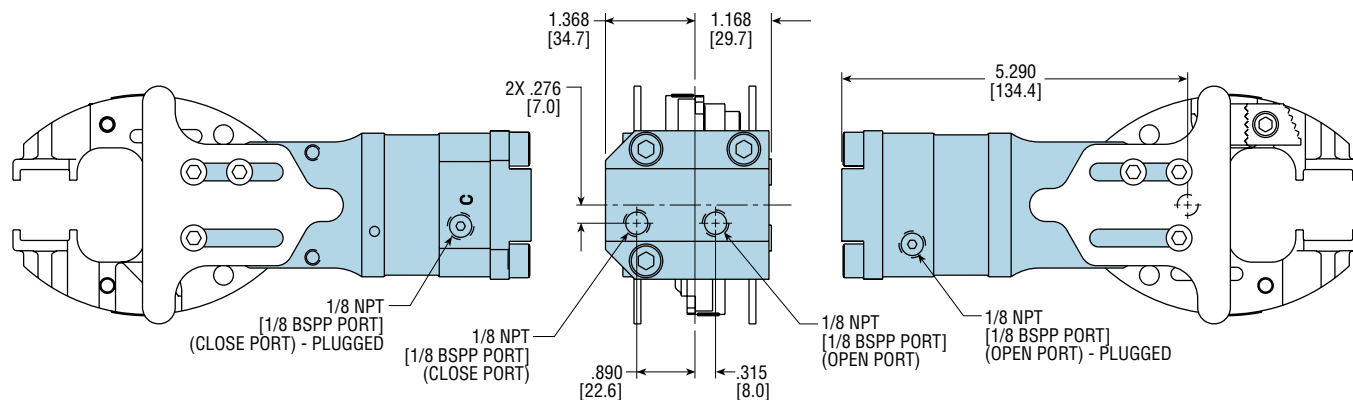
Example Ordering Data:

GRM 2 TS-2-45DCB-45DDB-LAA -B08A

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



- NOTES:**
- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED
 - 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

SPECIFICATIONS

CLAMP SIZE & MODEL	TOTAL CLAMP FORCE				DISPLACEMENT			
	WEIGHT ADDER		at 87 psi [6 bar]		OPEN		CLOSE	
	lb	kg	lb	N	in ³	cm ³	in ³	cm ³
2xC, D, G, H, J, N, P, & S	.82	0.37	460	2046	1.95	32	1.83	30
2xR	.82	0.37	676	3007	1.95	32	1.83	30
2xK	.82	0.37	360	1601	1.95	32	1.83	30
2xF	.82	0.37	460	2046	1.95	32	1.83	30

NOTES:

- 1) For tips, use GRM2 weights, dimensions, and kit numbers.
- 2) For mounting brackets, use GRM4 weights, dimensions, and kit numbers.

MOUNTING BRACKET KIT NUMBERS (use size 4 brackets)

MOUNTING STYLE	IMPERIAL	METRIC
T	none (std)	none (std)
C	64658-04	64658-05
R	64646-02	64648-02
S	64646-01	64648-01
W	64647-01	64649-01

NOTE: Mounting style A, B, & P not available with this accessory.

BODY OPTIONS: CLAMP ACCESSORIES

B09

POSITION 2 PORTS

This option provides both ports in position 2 of clamp (jaw A side of clamp). All jaw styles are available with the B09 body option. For jaw dimensions from the pivot pin forward, see the Series GRM section.

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	B09	\$10.00

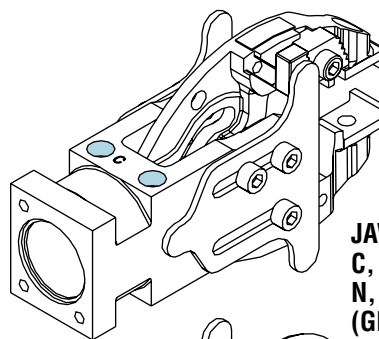
Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -B09

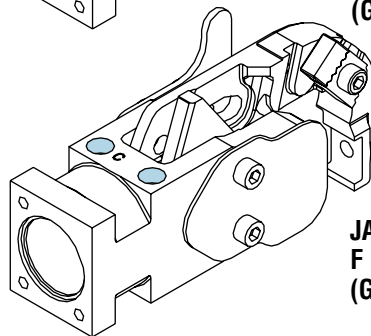
SHADED CODES are required for this option.

All unshaded model codes are example only.

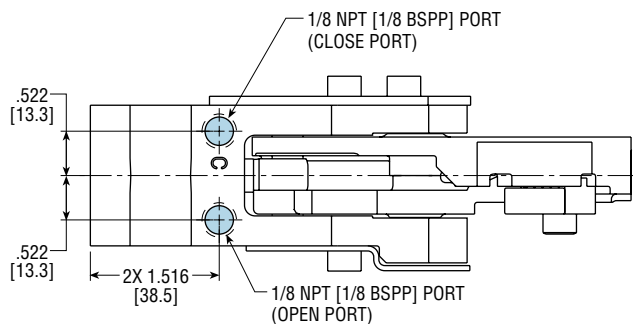
For compatibility with other units, consult PHD.



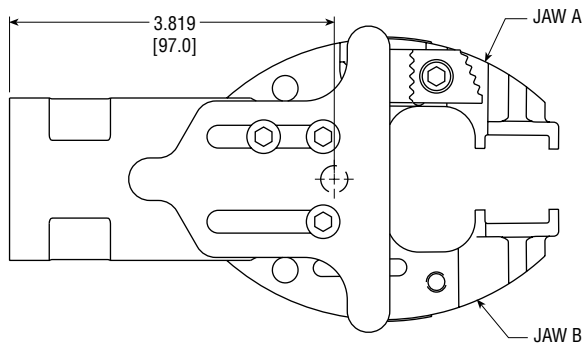
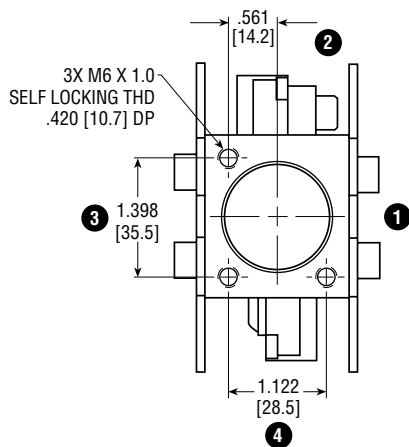
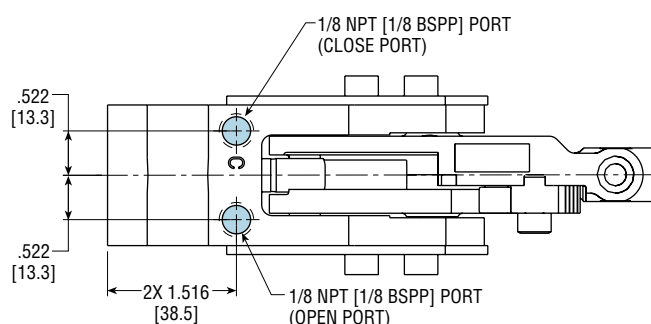
**JAW STYLES
C, D, G, H, J,
N, P, R, & S
(GRM2TS SHOWN)**



**JAW STYLES
F & K
(GRM2TF SHOWN)**



F & K STYLES ONLY



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 2 IS PORT SIDE OF CLAMP).

BODY PART NUMBER AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	JAW STYLE	PORTS		LIST PRICE
		IMPERIAL	METRIC	
2	C, D, G, H, J, N, P, R, & S	65368-11	65368-12	\$86.30
	F & K	65371-11	65371-12	\$118.45

Pricing subject to change. Consult local distributor for current pricing.

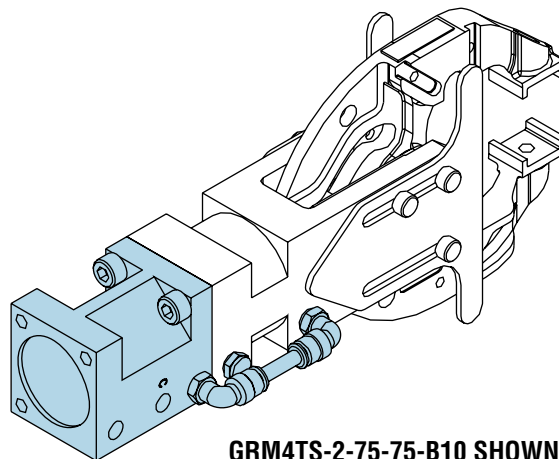
BODY OPTIONS: CLAMP ACCESSORIES

B10 TANDEM CYLINDER

This option provides a clamp with more force - 875 lb [3892 N]. The tandem cylinder portion mounts to a standard GRM4 body and adds an additional weight of .95 lb [.43 kg].

All standard GRM4 jaw styles are available. For dimensions not shown, see the Series GRM section.

NOTE: Tubing to connect cylinders may interfere with side mounting brackets. Installing a longer tube between cylinders can eliminate this.



GRM4TS-2-75-75-B10 SHOWN

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM4	2 [6]	\$147.20

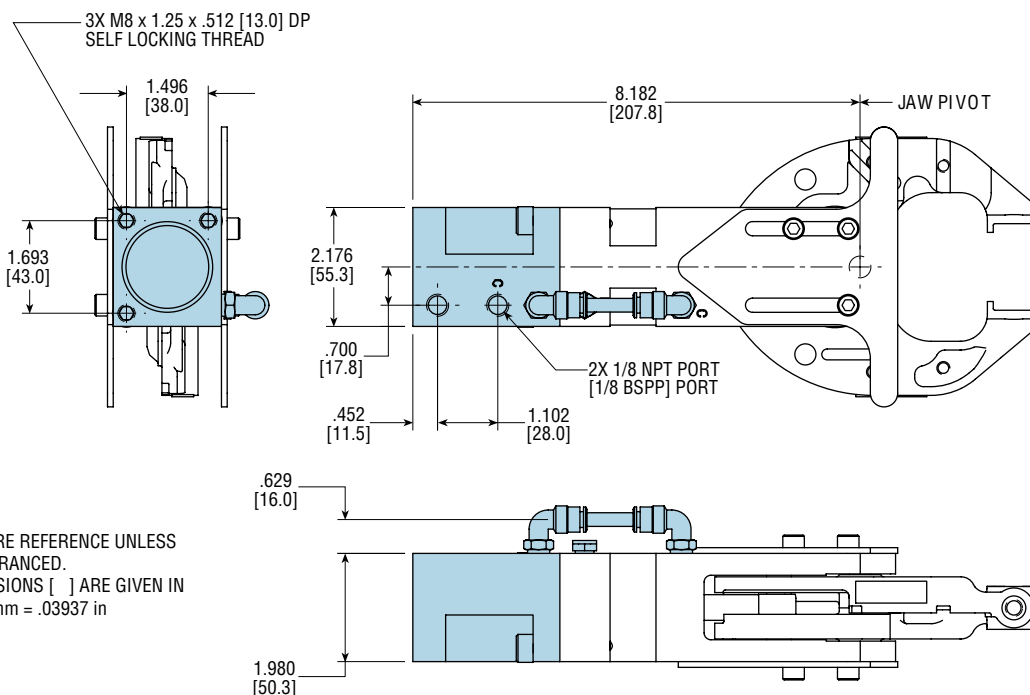
Example Ordering Data:

GRM4 **TS-2-45DDB-45DDB-LAA** **-B10**

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

SPECIFICATIONS

CLAMP SIZE	WEIGHT ADDER		TOTAL CLAMP FORCE at 87 psi [6 bar]		TOTAL DISPLACEMENT OPEN		TOTAL DISPLACEMENT CLOSE	
	lb	kg	lb	N	in ³	cm ³	in ³	cm ³
4	.95	.43	875	3892.2	2.40	39.3	4.36	71.4

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	ACCESSORY	KIT NUMBER		LIST PRICE
		IMPERIAL	METRIC	
4	B10	79710-03	79710-04	\$147.20

GENERAL OPTIONS: CLAMP ACCESSORIES

G01 to G02 CONTINUITY PATH

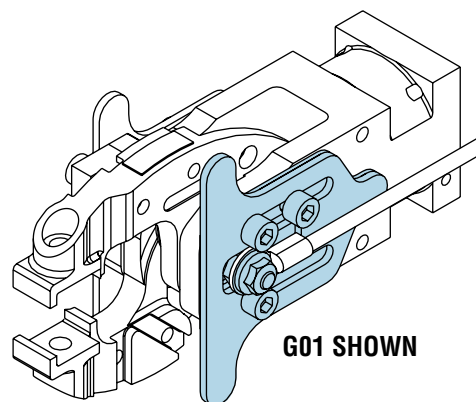
This option provides a continuity path through the clamp for low voltage current. The current can be used as a signal to indicate a panel present. If a circuit is made (through one clamp, the panel, and the opposite clamp) then a panel is being gripped. The controller senses a high/low condition. No proximity switches are required.

A special pivot pin with a M6 thread on one end extends through the retaining plate and hardened impact plate. Full impact plate adjustment is retained. A flanged locknut is provided to clamp your connector against the shoulder of the M6 thread.

No special tips, jaws, or switches are required.

The continuity feature does not work with urethane tips.

The G02 accessory is not available for GRMxxF clamps.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	G01 or G02	\$30.50
GRM4	2 [6]	G01 or G02	\$37.50

Price adder is for special pivot pin, impact plate, and nut mounted on clamp.

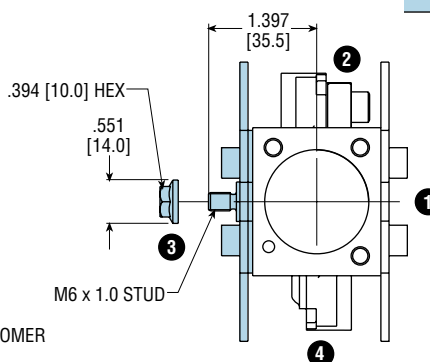
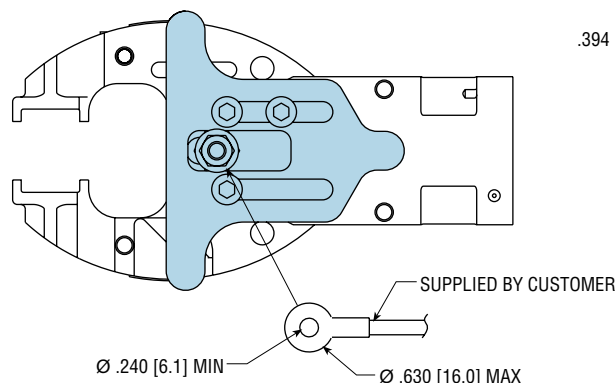
Example Ordering Data:

GRM2TS-2-45DCB-45ddb-LAA -G01

SHADED CODES are required for this option.

All unshaded model codes are example only.

ACCESSORY	M6 THREAD POSITION
G01	3 Opp Ports
G02	1 Port Side



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP).

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	ACCESSORY	JAW ROTATION	IMPACT PLATE EARS	KIT NUMBER	LIST PRICE
2xS, C, & D	G01, G02	75x75, 45x45, 22x22	2	65467-05	\$30.50
2xS, C, D, H, & J	G01, G02	75x00, 45x00, 22x00	1	65467-04	\$30.50
2xR	G01, G02	60x60, 45x45, 35x35, 22x22	2	65467-05	\$30.50
2xR	G01, G02	60x00, 45x00, 22x00	1	65467-04	\$30.50
2xF	G01 only	85x00, 50x00, 50x22	1	65467-06	\$30.50
2xX	G01, G02	special	0	65467-03	\$30.50
4xS	G01, G02	75x75, 45x45, 22x22	2	65467-09	\$37.50
4xS, H, & J	G01, G02	75x00, 45x00, 22x00	1	65467-08	\$37.50
4xF	G01 only	85x00, 50x00	1	65467-10	\$37.50
4xX	G01, G02	special	0	65467-07	\$37.50

Kit includes:

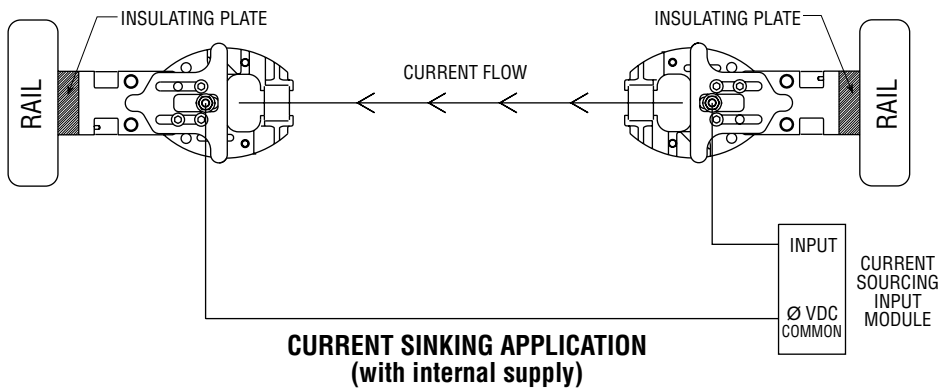
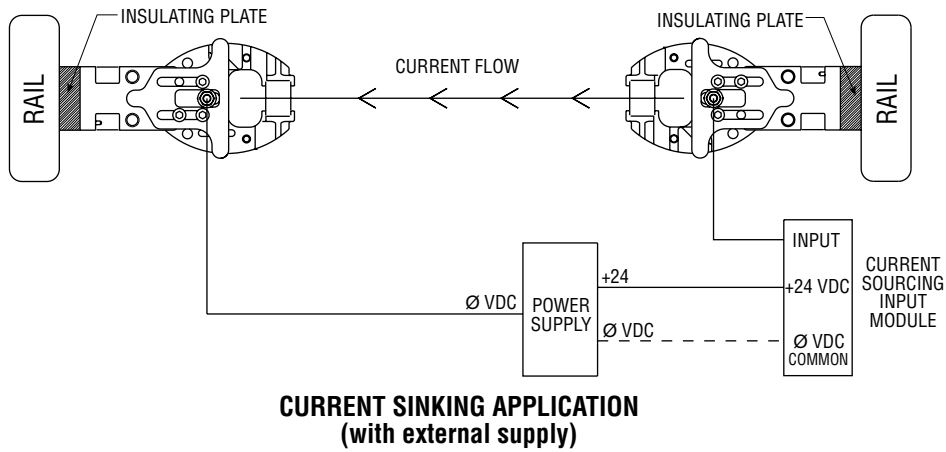
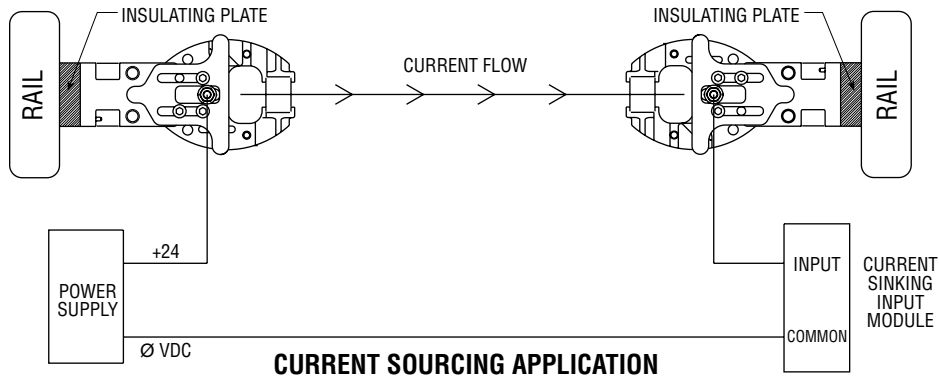
- Pivot Pin
- Retaining Plate
- Impact Plate
- Flange Locknut
- 3 Screws

Pricing subject to change. Consult local distributor for current pricing.

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GENERAL OPTIONS: CLAMP ACCESSORIES

G01 & G02 WIRING SCHEMATICS



GENERAL OPTIONS: CLAMP ACCESSORIES

G07 ALUMINUM JAW CLAMP (BOTH JAWS ROTATE)

This option provides a GRM clamp with hardcoated aluminum jaws that reduce the weight of the clamp by 0.6 lb [0.3 kg]. Both jaws accept all Series GRM standard and accessory tips. Jaw rotations are the same as standard GRM clamps. Consult PHD for additional accessory compatibility. **Not available with G01 and G02 options.**

No-ear impact plates are standard with this option.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$34.70

Price adder is for two aluminum jaws mounted to the clamp.

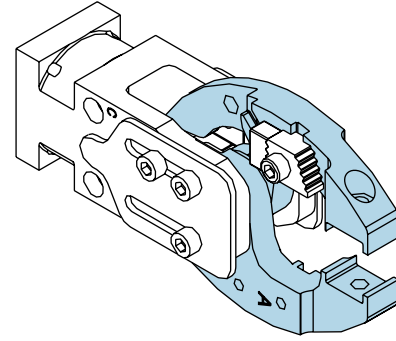
Example Ordering Data:

GRM2T **S** -2-45DCB-45DDB-LAA **-G07**

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



GRM2TS-2-45-45 SHOWN

SPECIFICATIONS

CLAMP SIZE & MODEL	WEIGHT REDUCER		LENGTH ADDER		TOTAL CLAMP FORCE at 87 psi [6 bar]	
	lb	kg	in	mm	lb	N
2xS	.60	.30	.197	5.0	145	645

JAW PART NUMBER AND PRICE IF ORDERED SEPARATELY

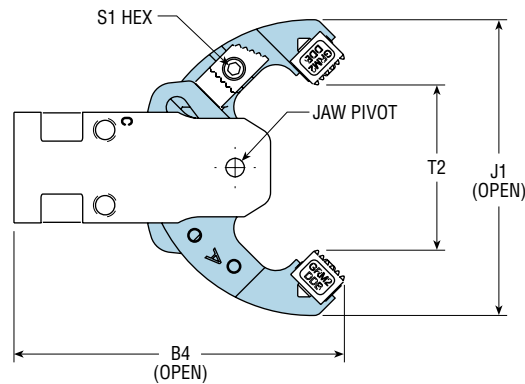
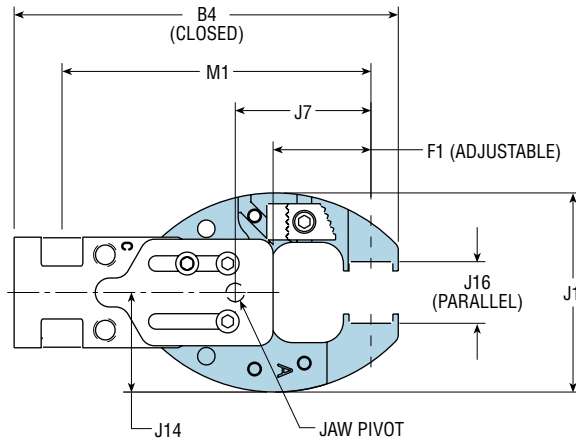
CLAMP SIZE	JAW PART NUMBER	LIST PRICE
2	65202-01	\$130.80

REPLACEMENT KIT NUMBER AND PRICE IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
2	65275-03	\$27.15

Kit includes:

- 1 Jaw Driver Pin
- 1 Pivot Pin
- 4 Slider Bushings
- 1 O-Ring
- O-Ring used with 0° Jaws only



GRM2TS-2-45-45 SHOWN

LETTER DIM	MODEL NUMBER	
	in	mm
B4	6.634	168.5
F1 MAX	1.693	43.0
F2 MIN	1.182	30.0
J1	3.439	87.4
J7	2.343	59.5
J14	1.720	43.7
J16	1.064	27.0
M1	5.335	135.5

LETTER DIM	AVAILABLE ROTATIONS					
	75° x 75°		45° x 45°		22° x 22°	
	in	mm	in	mm	in	mm
B4	4.512	114.6	5.706	144.9	6.302	160.1
J1	5.828	148.0	5.107	129.7	4.147	105.3
S1	—	—	.197	5.0	.197	5.0
T2	3.851	97.8	2.853	72.5	1.541	39.1

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERENCED
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

Pricing subject to change. Consult local distributor for current pricing.

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GENERAL OPTIONS: CLAMP ACCESSORIES

G07

ALUMINUM JAW CLAMP (JAW A ROTATES ONLY)

This option provides a GRM clamp with hardcoated aluminum jaws that reduce the weight of the clamp by 0.6 lb [0.3 kg]. Both jaws accept all Series GRM standard and accessory tips. Jaw rotations are the same as standard GRM clamps. Consult PHD for additional accessory compatibility. **Not available with G01 and G02 options.**

No-ear impact plates are standard with this option.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$53.80

Price adder is for two aluminum jaws mounted to the clamp.

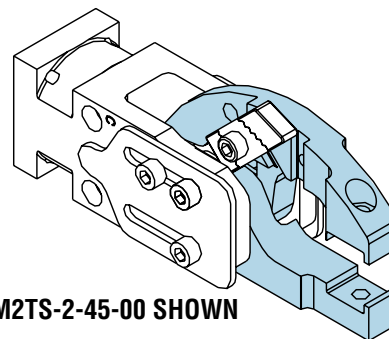
Example Ordering Data:

GRM2T S -2-45DCB-00 DDB-LAA -G07

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



GRM2TS-2-45-00 SHOWN

SPECIFICATIONS

CLAMP SIZE & MODEL	WEIGHT REDUCER		LENGTH ADDER		TOTAL CLAMP FORCE at 87 psi [6 bar]	
	lb	kg	in	mm	lb	N
2xS	.60	.30	.197	5.0	145	645

JAW PART NUMBER AND PRICE IF ORDERED SEPARATELY

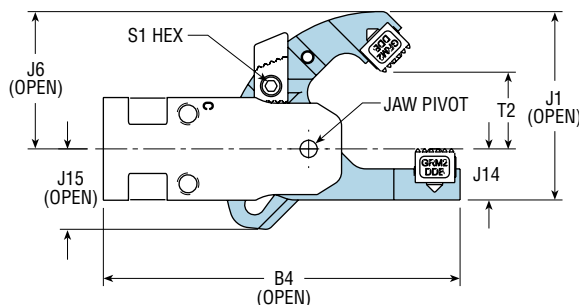
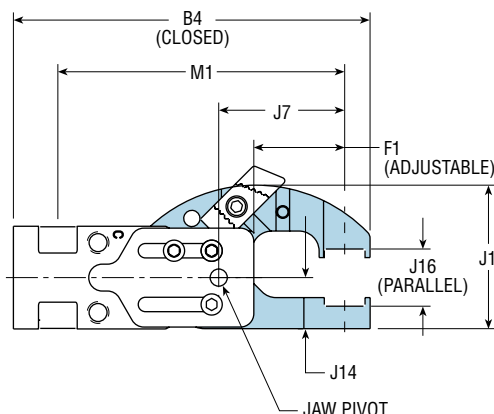
CLAMP SIZE	JAW ROTATION	JAW PART NUMBER	LIST PRICE
2	00°	65241-01	\$149.50
2	22°, 45°, 75°	65202-01	\$130.80

REPLACEMENT KIT NUMBER AND PRICE IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
2	65275-03	\$27.15

Kit includes:

- 1 Jaw Driver Pin
- 1 Pivot Pin
- 4 Slider Bushings
- 1 O-Ring
- O-Ring used with 0° Jaws only



GRM2TS-2-45-00 SHOWN

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

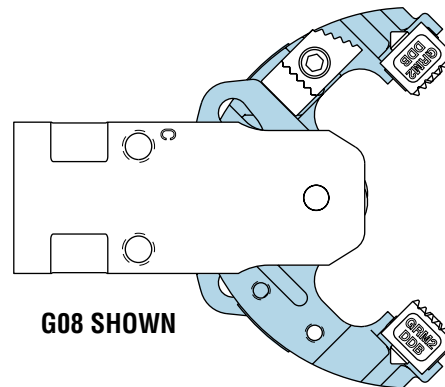
LETTER DIM	MODEL NUMBER	
	in	mm
B4	6.634	168.5
F1 MAX	1.693	43.0
F2 MIN	1.182	30.0
J1	2.669	67.8
J7	2.343	59.5
J14	.950	24.1
J16	1.064	27.0
M1	5.335	135.5

LETTER DIM	AVAILABLE ROTATIONS					
	75° x 00°		45° x 00°		22° x 00°	
	in	mm	in	mm	in	mm
B4	6.634	168.5	6.634	168.5	6.634	168.5
J1	3.864	98.1	3.503	89.0	3.024	76.8
J6	2.914	74.0	2.553	64.8	2.074	52.7
J14	.950	24.1	.950	24.1	.950	24.1
J15	1.863	47.3	1.496	38.0	1.088	27.6
S1	—	—	.197	5.0	.197	5.0
T2	1.920	48.8	1.427	36.2	.770	19.6

GENERAL OPTIONS: CLAMP ACCESSORIES

G08 or G09 LIFTING JAWS

These options provide standard jaws with special cam slots that increase the clamp's ability to pick up heavier loads as the jaws begin to close. Both jaws accept all Series GRM standard and accessory tips. These jaws have shorter locking ramps and require a different tip color code versus material thickness (see chart below). New red tips replace gold tips for panel thickness of 2.5 - 3.5 mm for this accessory only. G08 jaws (colored gold) open a maximum of 45° and have the greatest lifting ability. G09 jaws (colored silver) open a maximum of 75° with more lifting ability than the standard S jaw style.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	G08	\$41.60
		G09	\$75.60

Example Ordering Data:

GRM2T **S** -2- **75** DCB- **75** DDB-LAA **G08**

SHADED CODES are required for this option.

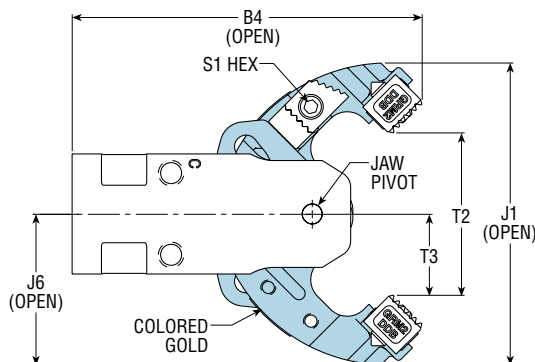
All unshaded model codes are example only.

For compatibility with other units, consult PHD.

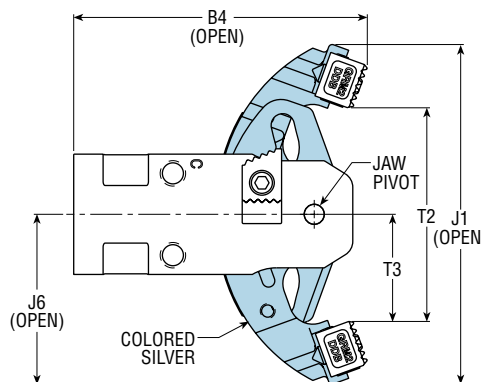
SPECIFICATIONS

CLAMP SIZE & OPTIONS	LIFTING FORCE AT 87 psi [6 bar]	
	lb	N
GRM2-G08	20	89
GRM2-G09	11	49
GRM2-B08-G08	35	155
GRM2-B08-G09	21	93

GRMxxS-x-45xxx-45xxx-G08
GRMxxS-x-22xxx-22xxx-G08



GRMxxS-x-75xxx-75xxx-G09
GRMxxS-x-45xxx-45xxx-G09
GRMxxS-x-22xxx-22xxx-G09



LETTER DIM.	G08		G09	
	in	mm	in	mm
B4 (OPEN)	5.545	140.8	4.437	112.7
J1 (OPEN)	4.805	122.0	5.444	138.3
J6 (OPEN)	2.403	61.0	2.722	69.1
S1	.197	5.0	—	—
T2	2.584	65.6	3.453	87.7
T3	1.292	32.8	1.727	43.9

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

SPECIAL JAW PART NUMBERS AND PRICES IF ORDERED SEPARATELY

OPTION	PART NUMBER	ROTATION	LIST PRICE
G08	65268-02	22° x 22°, 45° x 45°	\$129.30
G09	65269-02	22° x 22°, 45° x 45°, 75° x 75°	\$129.30

RECOMMENDED TIP COMBINATIONS JAW TIP OPTIONS - JAW A OR B

	MATERIAL THICKNESS		
	0 to 1.5 mm	1.5 to 2.5 mm	2.5 to 3.5 mm
Color	Black	Silver	Red
No tip	Blank	Blank	Blank
Single Cone Point	SCB	SCS	SCR
Double Cone Point	DCB	DCS	DCR
Single Diamond Point	SDB	SDS	SDR
Double Diamond Point	DDB	DDS	DDR
Single Urethane Pad	SUB	SUB	SUB
Double Urethane Pad	DUB	DUB	DUB

Pricing subject to change. Consult local distributor for current pricing.

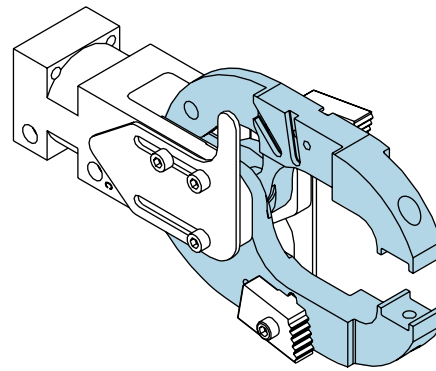
93

GENERAL OPTIONS: CLAMP ACCESSORIES

G10

FLIP OVER JAW CLAMP (FOR USE WITH SERIES GRM4xS CLAMPS ONLY)

This option provides jaws that are longer than standard. They are useful when you need to reach over panels with uneven edges or cutouts that occur frequently in flip over applications.



AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM4	2 [6]	\$126.95

Example Ordering Data:

GRM4T S -2-80DCB-80DDB-LAA -G10

SHADED CODES are required for this option.

All unshaded model codes are example only.

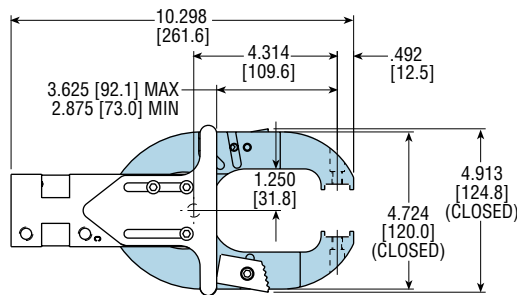
For compatibility with other units, consult PHD.

JAW PART NUMBER AND PRICE IF ORDERED SEPARATELY

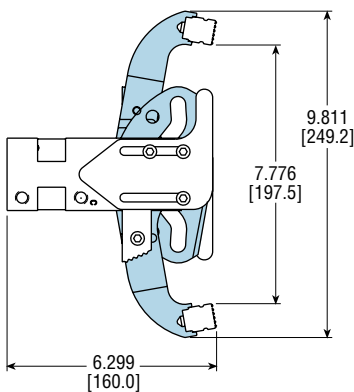
CLAMP SIZE	JAW ROTATION	JAW PART NUMBER	LIST PRICE
4	80°, 45°, 22°	65255-01	\$218.85

SPECIFICATIONS

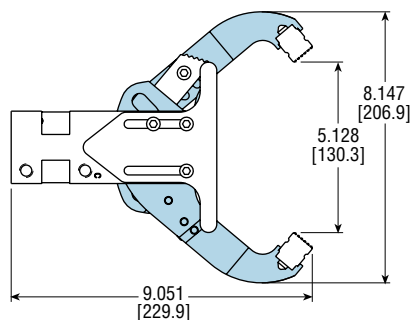
MODEL	UNIT WEIGHT*		TOTAL CLAMP FORCE	
	lb	kg	lb	N
GRM4xS-x-80-80				
GRM4xS-x-45-45	5.3	2.40	326	1450
GRM4xS-x-22-22				



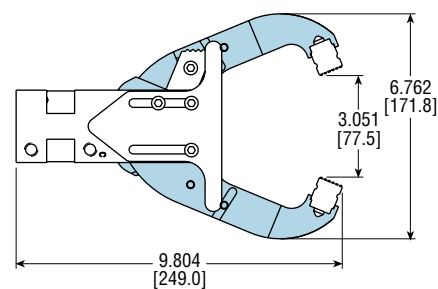
GRM4xS-x-80xxx-80xxx-G10 2 STOP BLOCKS REQUIRED



GRM4xS-x-45xxx-45xxx-G10 2 STOP BLOCKS REQUIRED



GRM4xS-x-22xxx-22xxx-G10 2 STOP BLOCKS REQUIRED



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

IMPACT PLATE OPTIONS: CLAMP ACCESSORIES

H01 to H08

This option provides standard impact plates mounted in non-standard orientations.

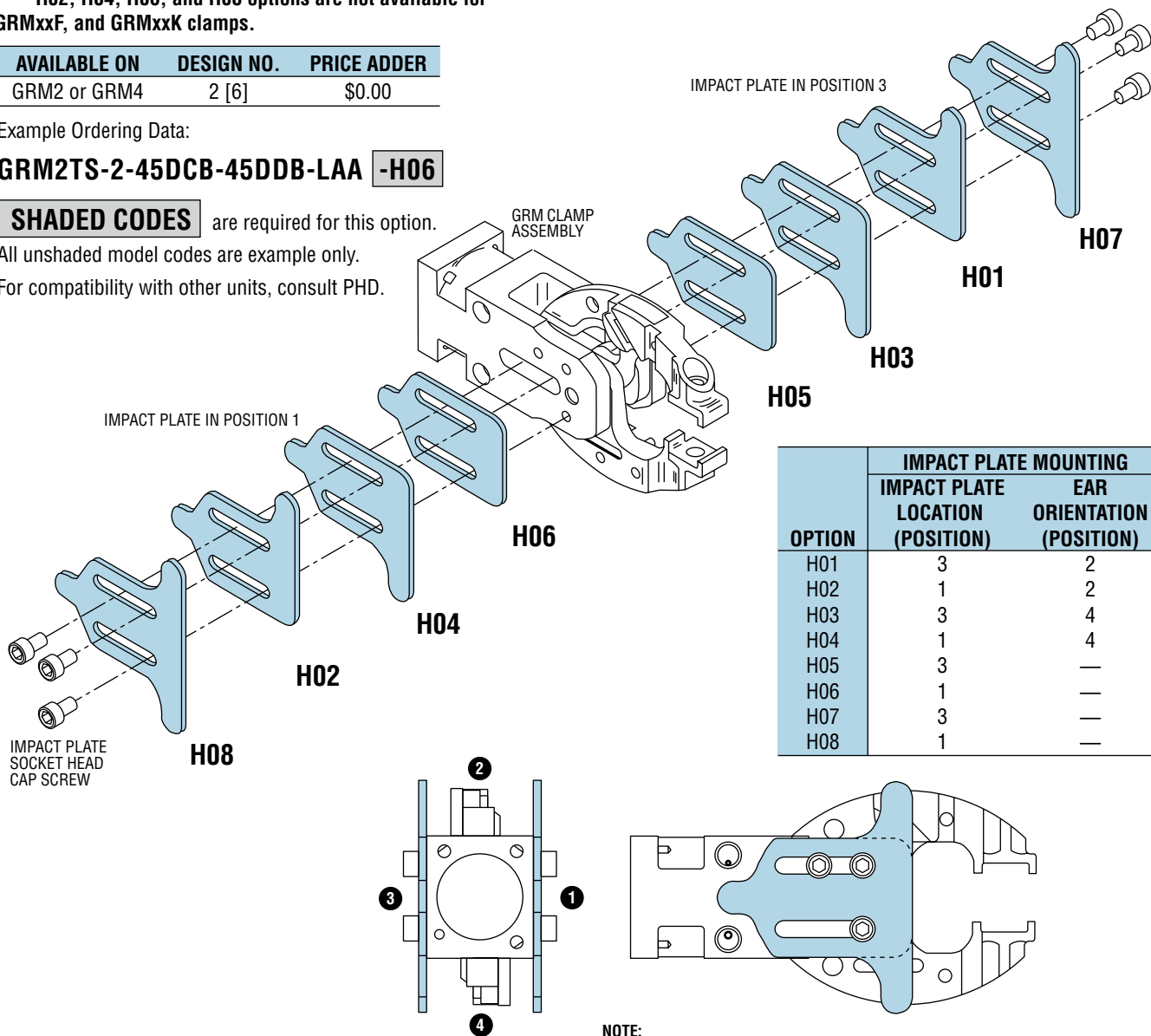
H02, H04, H06, and H08 options are not available for GRMxxF, and GRMxxK clamps.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2 or GRM4	2 [6]	\$0.00

Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -H06

SHADED CODES are required for this option.
All unshaded model codes are example only.
For compatibility with other units, consult PHD.



NOTE:
1) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP).

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	ACCESSORY	IMPACT PLATE EARS	KIT NUMBER	LIST PRICE
2	H01-H04	1	63967-01	\$9.50
2	H05-H06	0	63967-04	\$9.50
2	H07-H08	2	63967-02	\$9.35
4	H01-H04	1	64638-01	\$13.40
4	H05-H06	0	64638-04	\$13.40
4	H07-H08	2	64638-02	\$14.60

Kit includes:
2 Impact Plates
6 Screws

Pricing subject to change. Consult local distributor for current pricing.

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IMPACT PLATE OPTIONS: CLAMP ACCESSORIES

H09 to H12 CABLE PROTECTION PLATE

This option provides a steel cable protector plate for S01 switches.

H09 and H10 options are not available for GRMxxF and GRMxxK clamps.

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	H09, 10, 11, or 12	\$14.40

Price adder is for a cable protector mounted on a clamp.

Example Ordering Data:

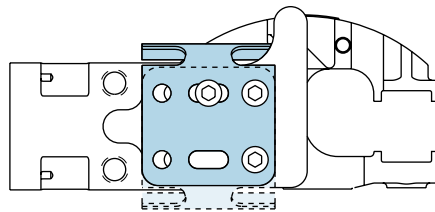
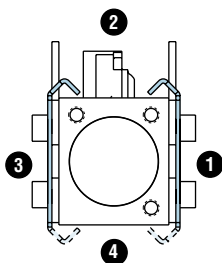
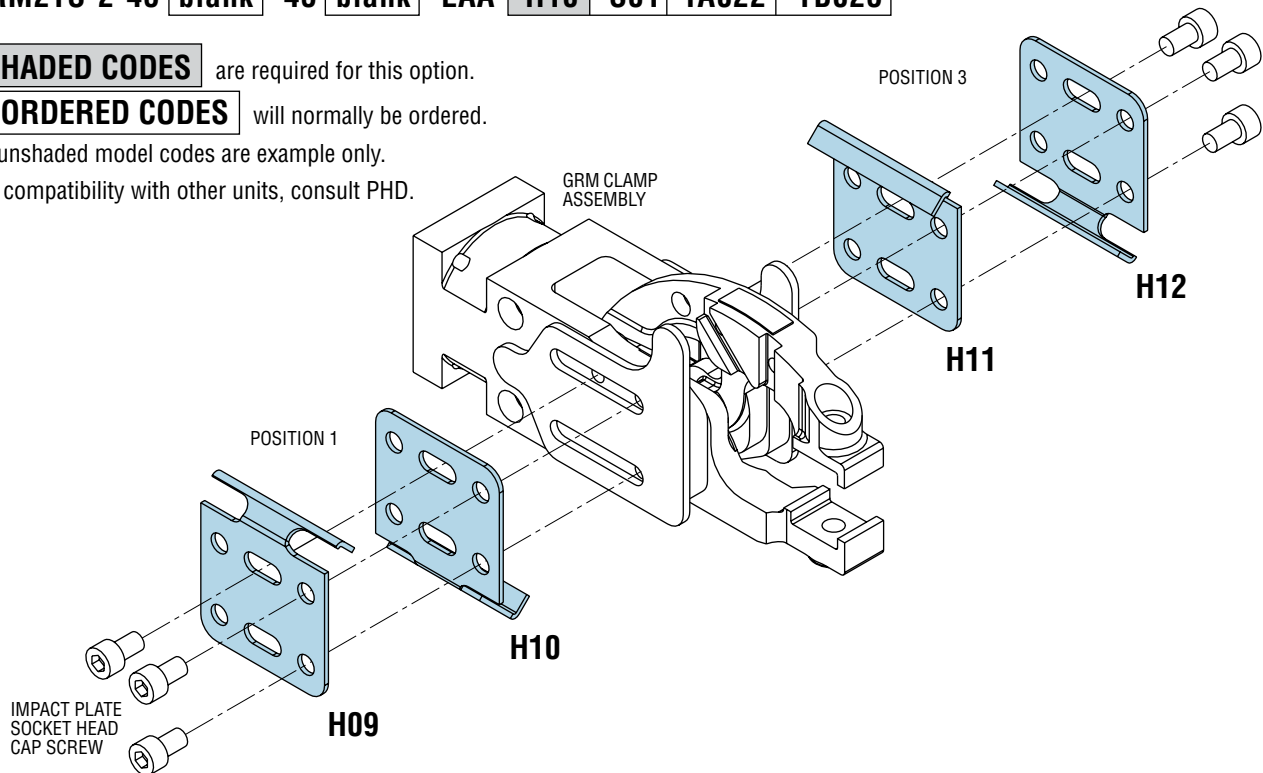
GRM2TS-2-45 **blank** -45 **blank** -LAA **-H10** -S01 -TA022 -TB025

SHADED CODES are required for this option.

BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



OPTION	PROTECTOR PLATE MOUNTING	
	PROTECTOR PLATE LOCATION (POSITION)	CORDSET LOCATION (POSITION)
H09	1	2
H10	1	4
H11	3	2
H12	3	4

NOTE:

1) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP).

PROTECTOR PLATE PART NUMBER AND PRICE IF ORDERED SEPARATELY

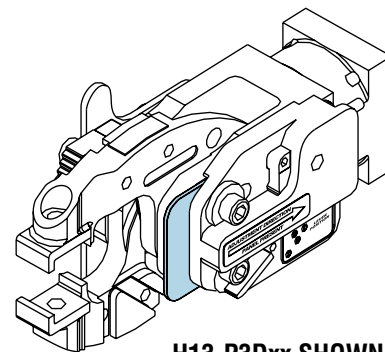
CLAMP SIZE	PART NUMBER	LIST PRICE
2	65116-01	\$14.40

IMPACT PLATE OPTION: CLAMP ACCESSORIES

H13 IMPACT PLATE OPTION FOR Pxxxx OR Dxxxx

This option provides an impact plate mounted below the switch housing of Pxxxx or Dxxxx options. The impact plate protrudes past the face of the switch housing protecting it from damage. **No-ear impact plates are standard with this option.**

The H13 option is not required when ordering the Kxxxx option (impact plates are standard with this option).



H13-P3Dxx SHOWN

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$9.35
GRM4	2 [6]	\$22.45

Price adder is for one impact plate mounted to the clamp.

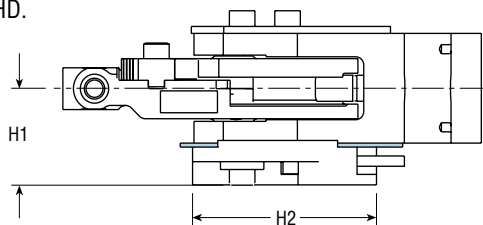
Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -H13 -P3D00

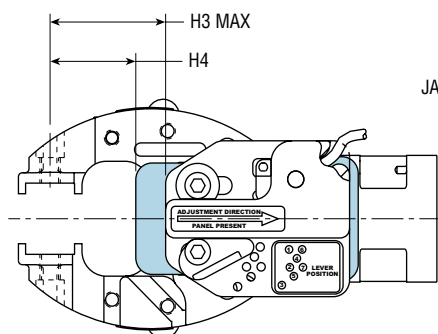
SHADED CODES are required for this option.

All unshaded model codes are example only.

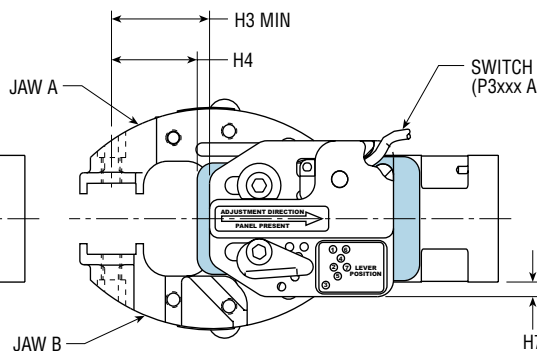
For compatibility with other units, consult PHD.



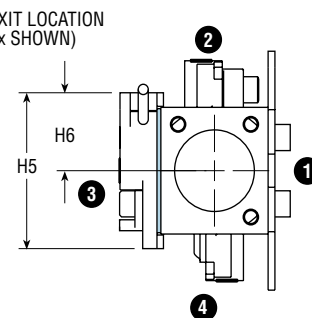
- NOTES:**
- 1) ALL DIMENSIONS ARE REFERENCE ONLY UNLESS SPECIFICALLY TOLERENCED
 - 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
 - 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP)



RETRACTED POSITION



EXTENDED POSITION



CLAMP SIZE	LETTER DIMENSION															
	H1		H2		H3 (MIN)		H3 (MAX)		H4		H5		H6		H7	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	1.461	37.1	2.836	72.0	1.512	38.4	1.782	45.3	1.322	33.6	2.350	59.7	1.175	29.8	.220	5.6
2xR	1.461	37.1	2.836	72.0	.822	20.9	1.092	27.7	.632	16.1	2.350	59.7	1.175	29.8	.220	5.6
4	1.653	42.0	3.561	90.4	2.143	54.4	2.412	61.3	1.953	49.6	2.750	69.9	1.375	34.9	.287	7.3

REPLACEMENT KIT NUMBER AND PRICE IF ORDERED SEPARATELY

CLAMP SIZE	ACCESSORY	KIT NUMBER	LIST PRICE
2	H13	72210-03	\$9.35
4	H13	72210-04	\$22.45

Kit Includes: 1 Impact Plate

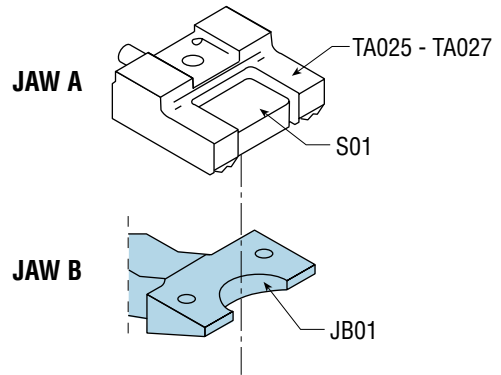
Pricing subject to change. Consult local distributor for current pricing.

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JAW OPTIONS: CLAMP ACCESSORIES

JB01 DOUBLE CHISEL ON JAW B

This option modifies a chisel jaw to work with the optional tip TA025-TA027 and switch S01. It removes material from the front of the chisel directly in line with the switch sensing area, allowing the jaws to close with no panel gripped and the switch will not sense the jaw tip.



AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$35.00

Price adder is for jaw only.
See Section S for S01 option.
See Section T for TA025 through TA027 options.

Example Ordering Data:

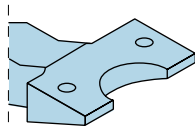
GRM2T **D** **-2-45** **blank** **-00-LAA** **-JB01** **-S01** **-TA025 through TA027**

SHADED CODES are required for this option.

BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



JAW PART NUMBER AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	ROTATION			
	0°	22°	45°	75°
2	65206-02	65207-02	65207-02	65207-02
LIST PRICE	\$163.55	\$172.80	\$172.80	\$172.80

JAW OPTIONS: CLAMP ACCESSORIES

Jx02

DROP JAW CLAMP (A ON JAW A, B ON JAW B)

This option provides a standard jaw with a special cam slot that reduces jaw opening. Assembled with a normal rotation jaw, it creates a clamp with jaws that open different amounts. Providing reduced opening (30°) for die clearance on one side and maximum opening (75°) for panel clearance on the other side. Using the stop reduces rotation of both jaws to 22 x 45 for additional flexibility. All components are standard per the GRM section except the reduced jaw.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$0.00

Example Ordering Data:

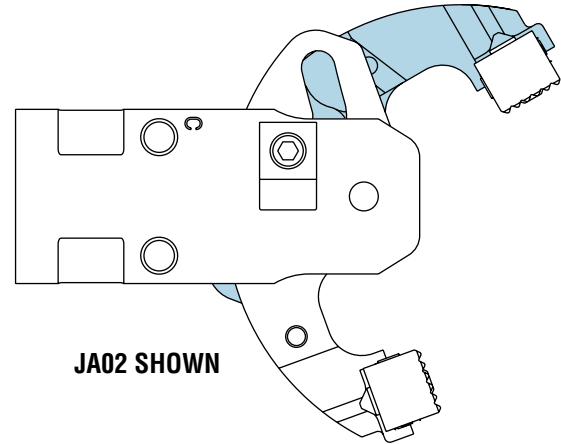
GRM2T **S** -2- **30** **DCB-** **75** **DDB-LAA** -**JA02**

SHADED CODES are required for this option.

BORDERED CODES will normally be ordered.

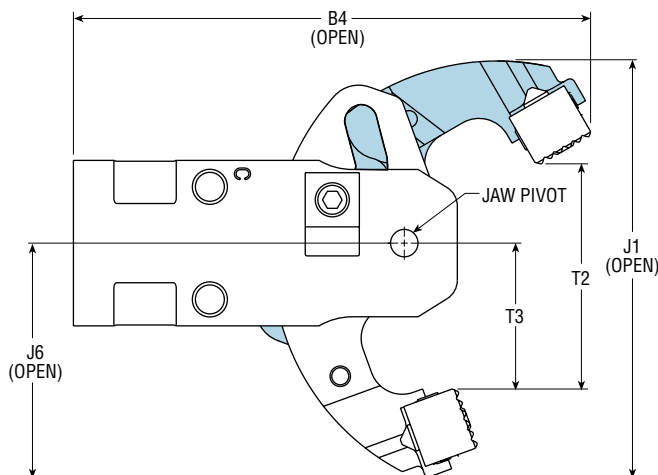
All unshaded model codes are example only.

For compatibility with other units, consult PHD.



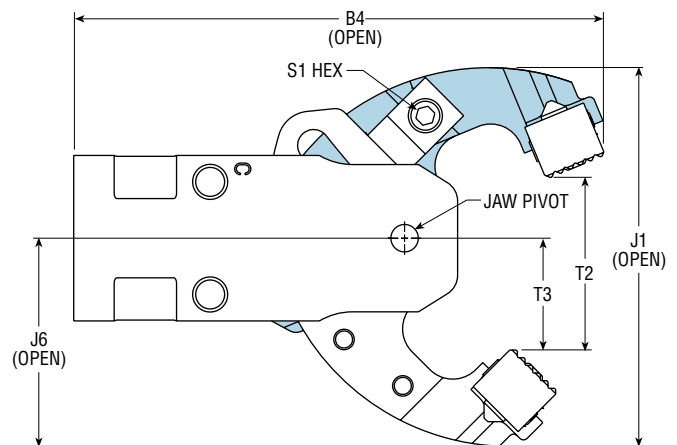
JA02 SHOWN

GRMxxS-x-30xxx-75xxx-JA02
GRMxxS-x-75xxx-30xxx-JB02
 Stop block not required



LETTER DIM.	SIZE 2	
	in	mm
B4 (OPEN)	5.968	151.6
J1 (OPEN)	4.794	121.8
J6 (OPEN)	2.697	68.5
T2	2.596	65.9
T3	1.683	42.7

GRMxxS-x-22xxx-45xxx-JA02
GRMxxS-x-45xxx-22xxx-JB02
 One stop block required



LETTER DIM.	SIZE 2	
	in	mm
B4 (OPEN)	6.119	155.4
J1 (OPEN)	4.369	111.0
J6 (OPEN)	2.402	61.0
S1	.197	5.0
T2	1.990	50.5
T3	1.291	32.8

SPECIAL JAW PART NUMBER AND PRICE IF ORDERED SEPARATELY

CLAMP SIZE	SPECIAL JAW NUMBER	
	22° or 30°	LIST PRICE
2	65208-02	\$124.30

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

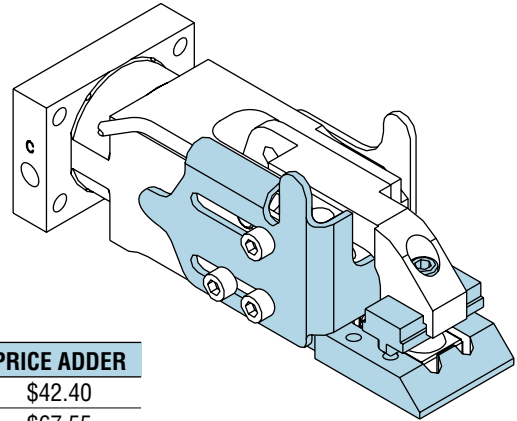
Pricing subject to change. Consult local distributor for current pricing.

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JAW OPTIONS: CLAMP ACCESSORIES

JB03x SWITCH MOUNTING JAW CLAMP (FOR USE WITH SERIES GRM2xM CLAMPS ONLY)

This option provides a lower flat shovel jaw with the ability to mount the S01 switch accessory. It can be ordered with or without a specially designed double cone point tip. This tip is designed in such a way that the S01 switch will not give a false reading when there is no panel between the jaws. Also included is a special impact plate that protects the switch cable as it is routed away from the switch.



GRM2TM-2-85-00-JB031-S01 SHOWN

AVAILABLE ON	DESIGN NO.	ACCESSORY	DESCRIPTION	PRICE ADDER
GRM2xM	2 [6]	JB030	Switch ready jaw - No tip included	\$42.40
		JB031	Switch ready jaw - Black tip included	\$67.55
		JB032	Switch ready jaw - Silver tip included	\$67.55
		JB033	Switch ready jaw - Gold tip included	\$67.55

NOTE: JB03x accessory does not include switch.

Example Ordering Data:

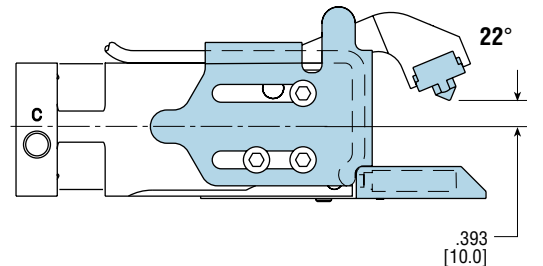
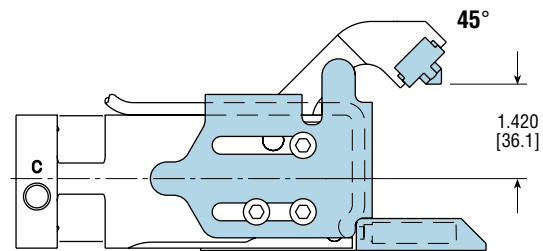
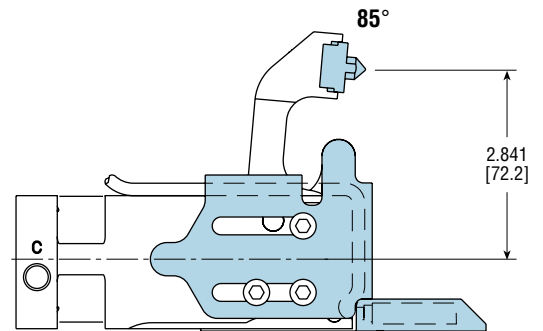
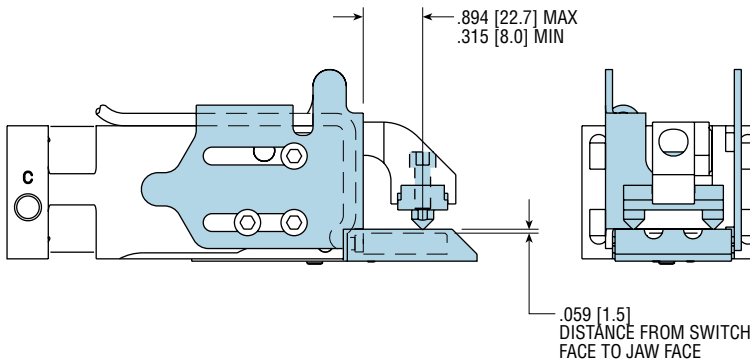
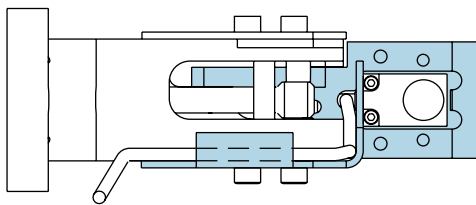
GRM2T **M** **-2-85** **blank** **-00-LAA** **-JB031** **-S01**

SHADED CODES are required for this option.

BORDERED CODES will normally be ordered.

All non-bold codes are for example only.

For compatibility with other units, consult PHD.



CLAMP SIZE	KIT/PART DESCRIPTION	KIT/PART NUMBER	MATERIAL THICKNESS	LIST PRICE
GRM2	Jaw Kit - No tip	73068-03	—	\$75.45
	Tip Kit - Black	73068-04	0-1.5 mm	\$55.25
	Tip Kit - Silver	73068-05	1.51-3.0 mm	\$55.25
	Tip Kit - Gold	73068-06	3.01-4.0 mm	\$55.25
	Switch Kit - S01	65136-11	—	\$193.55

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

MOUNTING OPTIONS: CLAMP ACCESSORIES

M01 30 mm SPHERICAL MOUNTING BRACKET

This option provides a spherical side mounting bracket for a 30 mm tube.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$52.20
GRM2-B08 or GRM4	2 [6]	\$54.05

Price adder is for bracket only.

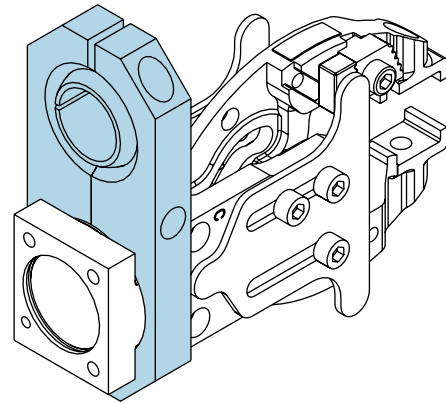
Example Ordering Data:

GRM2 **T** **S-2-45DCB-45DDB-LAA** **-M01**

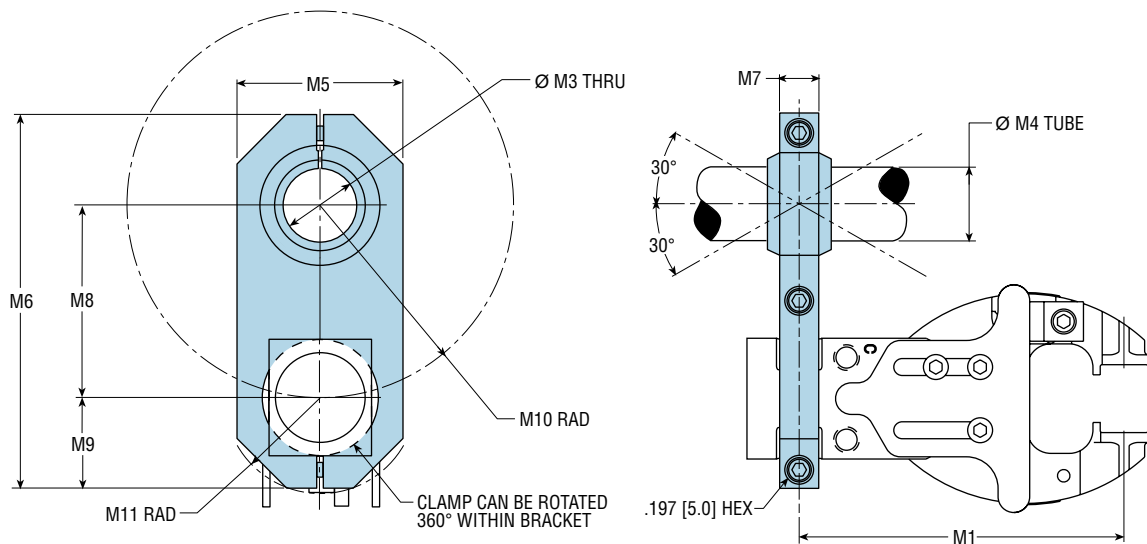
SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



PATENT #5,941,513



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) BRACKET MAY ROTATE 360° ABOUT M4 TUBE

CLAMP SIZE	LETTER DIMENSION																			
	M1		M3*		M4		M5		M6		M7		M8		M9		M10		M11	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2Tx	5.138	130.5	1.186	30.12	1.181	30.0	2.618	66.5	6.064	154.0	.625	15.9	3.130	79.5	1.476	37.5	3.130	79.5	1.565	39.8
2TR	4.448	113.0	1.186	30.12	1.181	30.0	2.618	66.5	6.064	154.0	.625	15.9	3.130	79.5	1.476	37.5	3.130	79.5	1.565	39.8
4Tx	6.969	177.0	1.186	30.12	1.181	30.0	2.618	66.5	6.299	160.0	.750	19.1	3.130	79.5	1.711	43.5	3.130	79.5	1.786	45.4

*TOLERANCE FOR M3 = ± .002 [±0.05]

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
GRM2	65001-01	\$52.20
GRM2-B08 or GRM4	65001-06	\$54.05

Kit includes:
 2 Bracket Halves
 1 Spherical Ball
 3 Screws

Pricing subject to change. Consult local distributor for current pricing.

MOUNTING OPTIONS: CLAMP ACCESSORIES

M02

30 mm NON-SPHERICAL MOUNTING BRACKET

This option provides a non-spherical side mounting bracket for a 30 mm tube.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2 or GRM4	2 [6]	\$52.75

Price adder is for bracket only.

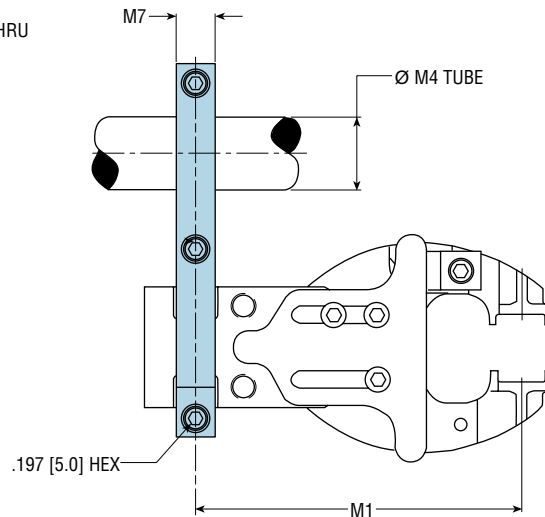
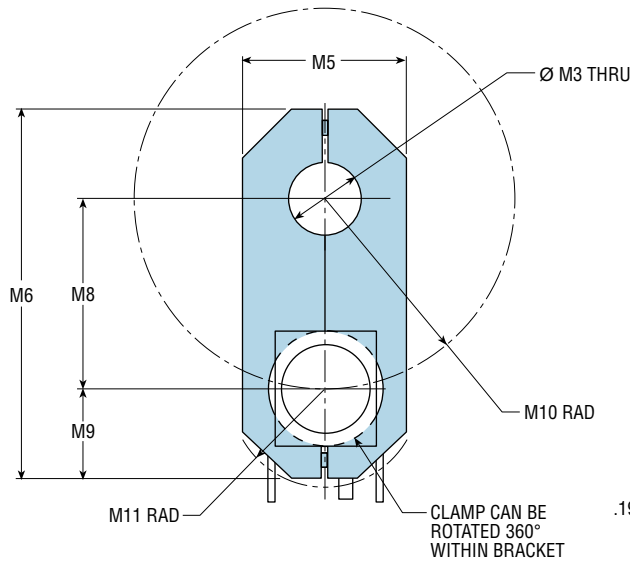
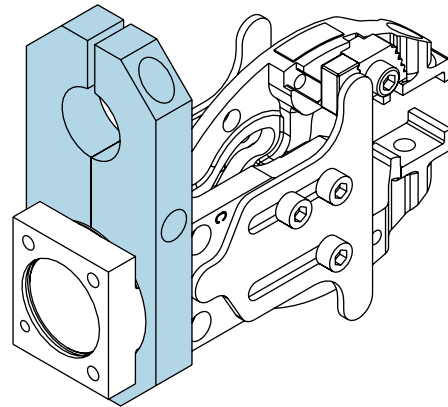
Example Ordering Data:

GRM2 **T** **S-2-45DCB-45DDB-LAA** **-M02**

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) BRACKET MAY ROTATE 360° ABOUT M4 TUBE

CLAMP SIZE	LETTER DIMENSION																			
	M1		M3*		M4		M5		M6		M7		M8		M9		M10		M11	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2Tx	5.138	130.5	1.186	30.12	1.181	30.0	2.618	66.5	6.064	154.0	.625	15.9	3.130	79.5	1.476	37.5	3.130	79.5	1.565	39.8
2TR	4.448	113.0	1.186	30.12	1.181	30.0	2.618	66.5	6.064	154.0	.625	15.9	3.130	79.5	1.476	37.5	3.130	79.5	1.565	39.8
4Tx	6.969	177.0	1.186	30.12	1.181	30.0	2.618	66.5	6.299	160.0	.750	19.1	3.130	79.5	1.711	43.5	3.130	79.5	1.786	45.4

*TOLERANCE FOR M3 = ± .006 [±0.15]

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
GRM2	65001-02	\$52.75
GRM2-B08 or GRM4	65001-07	\$52.75

Kit includes:
2 Bracket Halves
3 Screws

MOUNTING OPTIONS: CLAMP ACCESSORIES

M03 RIGID REAR MOUNTING BRACKET

This option provides an aluminum rear mounting bracket for a 1.0 inch [25.0 mm] diameter tube internally or a 1.874 inch [47.6 mm] diameter externally.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$46.35
GRM2-B08 or GRM4	2 [6]	\$45.00

Price adder is for bracket only.

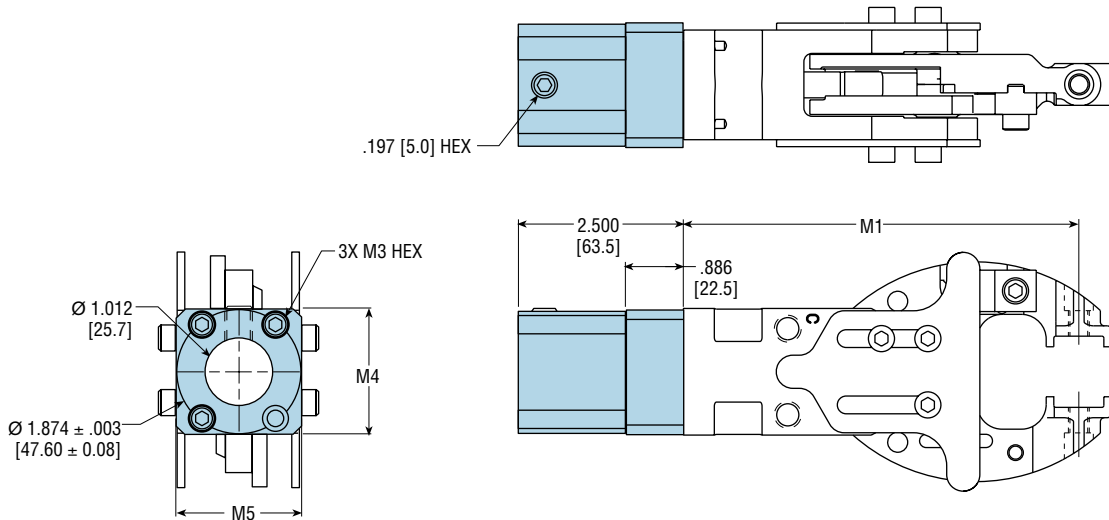
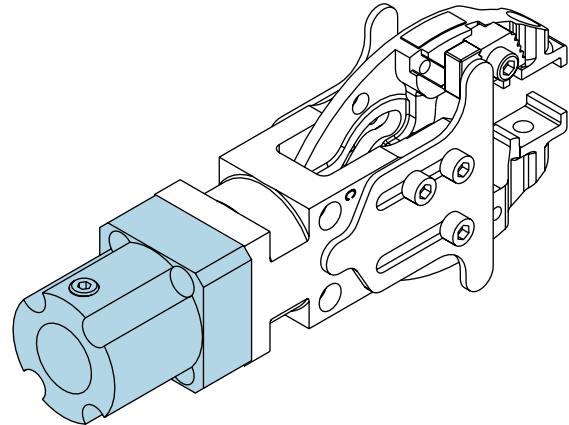
Example Ordering Data:

GRM2 **T** S-2-45DCB-45DDB-LAA **-M03**

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



CLAMP SIZE	LETTER DIMENSION							
	M1		M3		M4		M5	
	in	mm	in	mm	in	mm	in	mm
2Tx	5.965	151.5	.197	5.0	1.910	48.5	1.910	48.5
2TR	5.275	134.0	.197	5.0	1.910	48.5	1.910	48.5
4Tx	8.307	211.0	.236	6.0	2.362	60.0	2.165	55.0

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
GRM2	65002-03	\$46.35
GRM2-B08 or GRM4	65002-04	\$45.00

Kit includes:
Rear Mounting Bracket
3 Screws

Pricing subject to change. Consult local distributor for current pricing.

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MOUNTING OPTIONS: CLAMP ACCESSORIES

M04 RIGID REAR MOUNTING BRACKET

This option provides an aluminum rear mounting bracket for a 1.0 in [25.0 mm] diameter tube internally or a 1.874 in [47.6 mm] diameter externally.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2 or GRM4	2 [6]	\$57.80

Price adder is for bracket only.

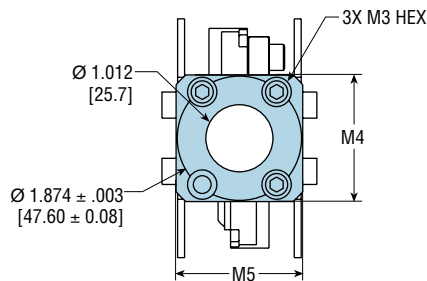
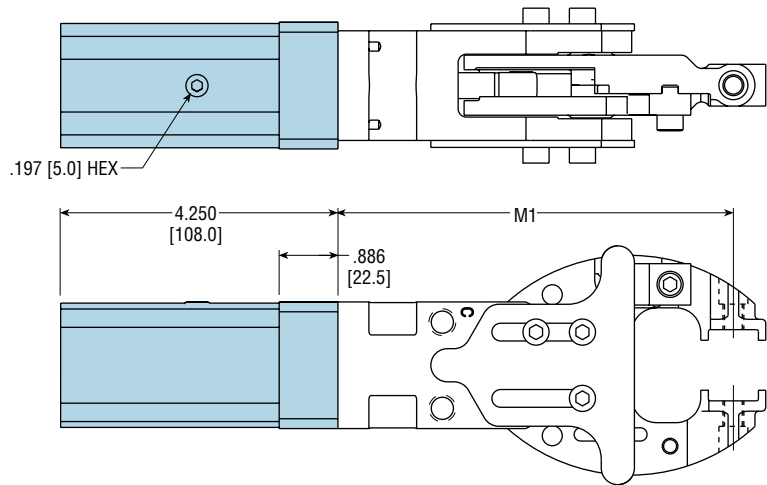
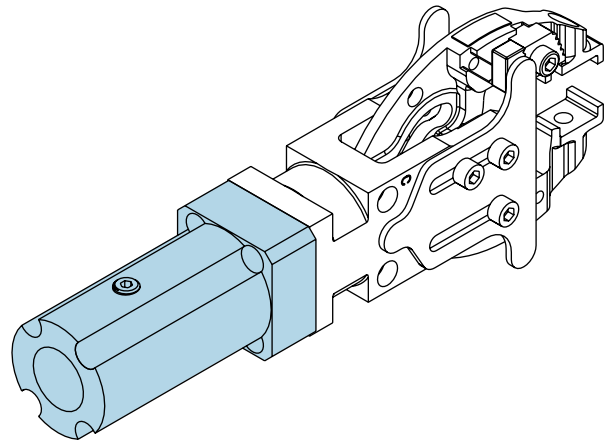
Example Ordering Data:

GRM2 **T** S-2-45DCB-45DDB-LAA **-M04**

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



CLAMP SIZE	LETTER DIMENSION							
	M1		M3		M4		M5	
	in	mm	in	mm	in	mm	in	mm
2Tx	5.965	151.5	.197	5.0	1.910	48.5	1.910	48.5
2TR	5.275	134.0	.197	5.0	1.910	48.5	1.910	48.5
4Tx	8.307	211.0	.236	6.0	2.362	60.0	2.165	55.0

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
GRM2	65029-03	\$57.80
GRM2-B08 or GRM4	65029-04	\$57.80

Kit includes:
 Rear Mounting Bracket
 3 Screws
 2 Set Screws

MOUNTING OPTIONS: CLAMP ACCESSORIES

M07 32 mm SPHERICAL MOUNTING BRACKET

This option provides a spherical side mounting bracket for a 32 mm tube.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2 or GRM4	2 [6]	\$69.85

Price adder is for bracket only.

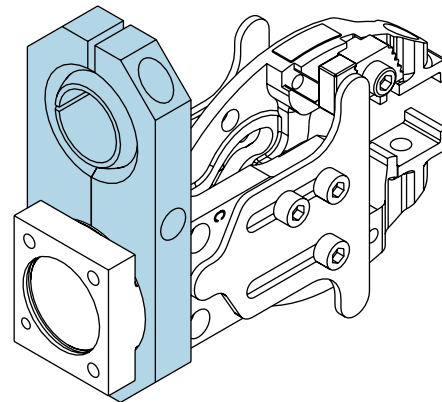
Example Ordering Data:

GRM2 T S-2-45DCB-45DDB-LAA -M07

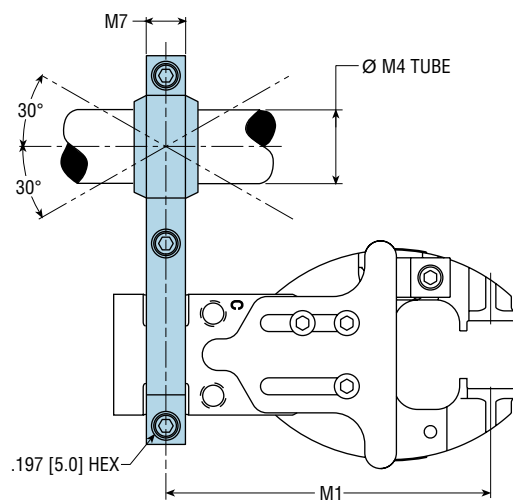
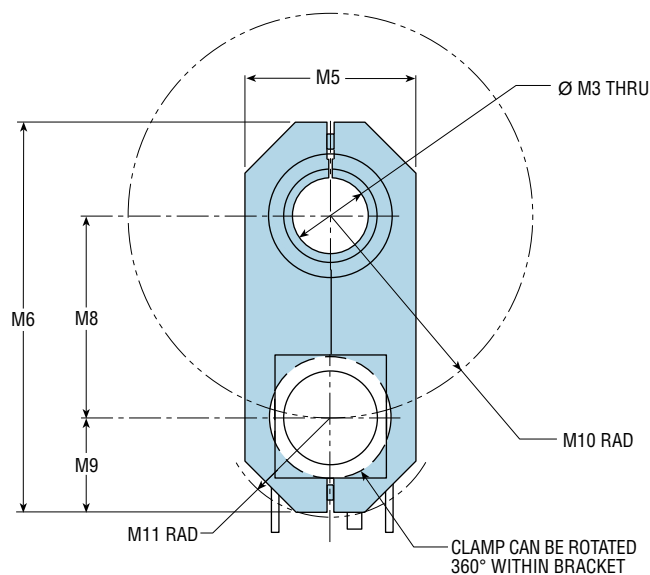
SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



PATENT #5,941,513



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) BRACKET MAY ROTATE 360° ABOUT M4 TUBE

CLAMP SIZE	LETTER DIMENSION																			
	M1		M3*		M4		M5		M6		M7		M8		M9		M10		M11	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2Tx	5.138	130.5	1.265	32.13	1.260	32.0	2.618	66.5	6.064	154.0	.625	15.9	3.130	79.5	1.476	37.5	3.130	79.5	1.565	39.8
2TR	4.448	113.0	1.265	32.13	1.260	32.0	2.618	66.5	6.064	154.0	.625	15.9	3.130	79.5	1.476	37.5	3.130	79.5	1.565	39.8
4Tx	6.969	177.0	1.265	32.13	1.260	32.0	2.618	66.5	6.299	160.0	.750	19.1	3.130	79.5	1.711	43.5	3.130	79.5	1.786	45.4

*TOLERANCE FOR M3 = ± .002 [±0.05]

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
GRM2	62223-04	\$69.85
GRM2-B08 or GRM4	62223-05	\$69.85

Kit includes:
 2 Bracket Halves
 1 Spherical Ball
 3 Screws

Pricing subject to change. Consult local distributor for current pricing.

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MOUNTING OPTIONS: CLAMP ACCESSORIES

M27 1 in SPHERICAL MOUNTING BRACKET

M30 33.3 mm SPHERICAL MOUNTING BRACKET

M28 25.0 mm SPHERICAL MOUNTING BRACKET

M36 30.0 mm SPHERICAL MOUNTING BRACKET

M29 1.25 in SPHERICAL MOUNTING BRACKET

M37 32.0 mm SPHERICAL MOUNTING BRACKET

These options provide a spherical side-mounting bracket for 1 in, 1.25 in, 25.0 mm, 30.0 mm, 32.0 mm, or 33.3 mm mounting tubes. The mounting bracket uses M8 screws for bracket assembly instead of M6 screws.

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	M27	\$56.10
		M28	\$56.10
		M29	\$59.00
		M30	\$73.25
		M36	\$59.75
		M37	\$69.85
GRM2-B08 or GRM4	2 [6]	M27	\$56.10
		M28	\$56.10
		M29	\$61.40
		M30	\$95.75
		M36	\$59.75
		M37	\$70.30

Price adder is for bracket only.

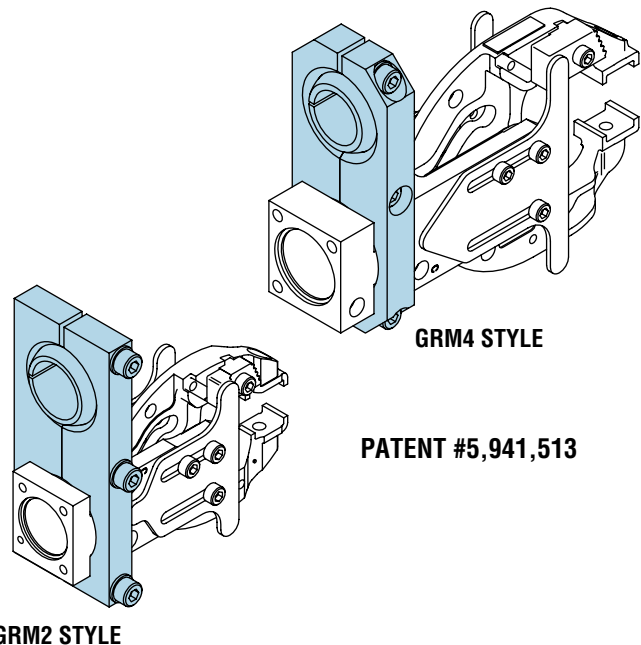
Example Ordering Data:

GRM2 **T** **S-2-45DCB-45DDB-LAA** **-M27**

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



GRMxxx SPHERICAL BRACKET KITS WITH M8 SHCS

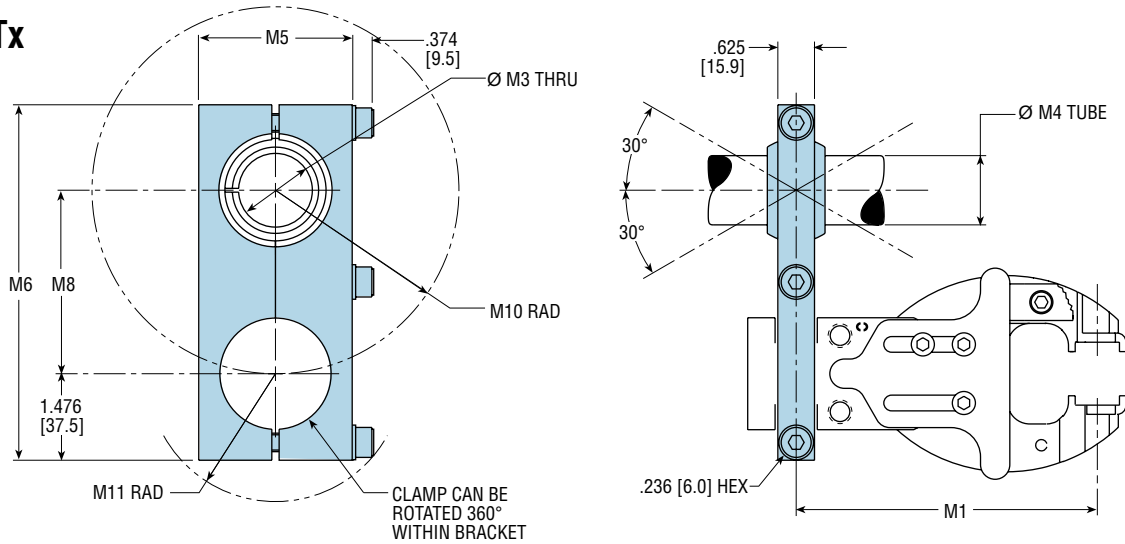
OPTION CODE	KIT NUMBER		MOUNTING ROD DIAMETER	LIST PRICE	
	GRM2xx	GRM2-B08 or GRM4xx		GRM2xx	GRM2-B08 or GRM4xx
M27	62149-04	64646-06	1.0 in	\$56.10	\$56.10
M28	62196-04	64648-05	25.0 mm	\$56.10	\$56.10
M29	62201-04	64647-02	1.25 in	\$59.00	\$61.40
M30	62201-05	64649-02	33.3 mm	\$73.25	\$95.75
M36	65001-11	65001-12	30.0 mm	\$59.75	\$59.75
M37	62223-07	62223-08	32.0 mm	\$69.85	\$70.30

Kit includes:

- 2 Bracket Halves
- 1 Spherical Ball
- 3 Screws
- 3 Washers

MOUNTING OPTIONS: CLAMP ACCESSORIES

GRM2Tx



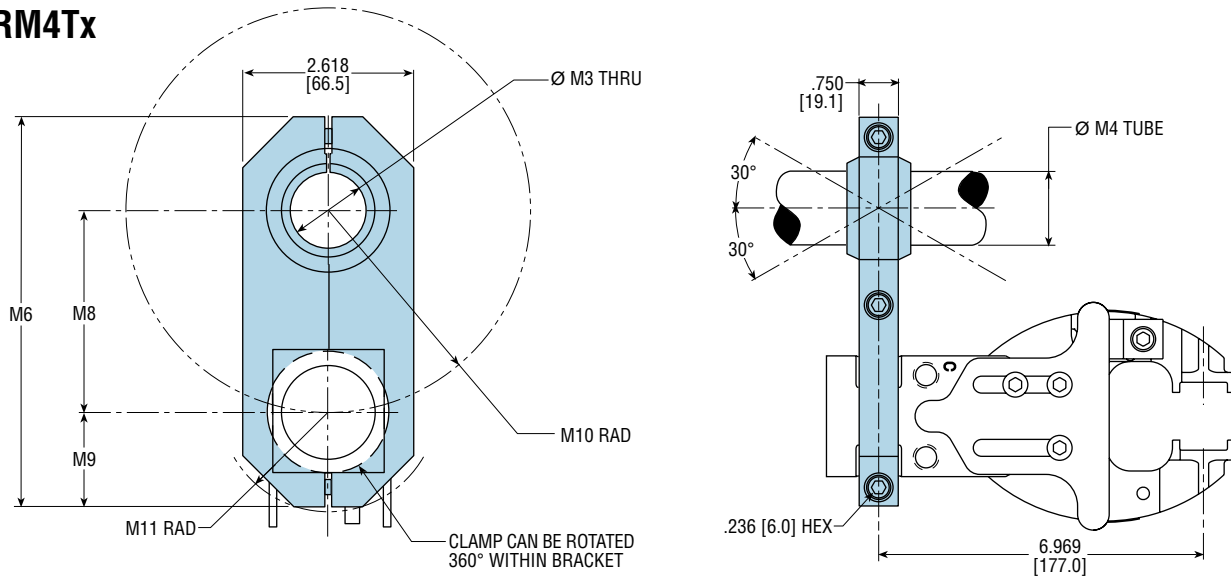
NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) BRACKET MAY ROTATE 360° ABOUT M4 TUBE

OPTION	LETTER DIMENSION																	
	M1 (GRM2Tx)		M1 (GRM2TR)		M3*		M4		M5		M6		M8		M10		M11	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
-M27	5.138	130.5	4.448	113.0	1.006	25.55	1.000	25.4	2.244	57.0	5.197	132.0	2.500	63.5	2.500	63.5	2.040	51.8
-M28					.989	25.13	.984	25.0										
-M29	5.138	130.5	4.448	113.0	1.258	31.95	1.250	31.8	2.618	66.5	6.064	154.0	3.130	79.5	3.130	79.5	2.181	55.4
-M30					1.336	33.93	1.311	33.3										
-M36	5.138	130.5	4.448	113.0	1.186	30.12	1.181	30.0	2.618	66.5	6.064	154.0	3.130	79.5	3.130	79.5	2.181	55.4
-M37					1.265	32.13	1.260	32.0										

*TOLERANCE FOR M3: -M27 AND -M28 = ± .001 [±0.03] ALL OTHER OPTIONS = ± .002 [±0.05]

GRM4Tx



OPTION	LETTER DIMENSION													
	M3*		M4		M6		M8		M9		M10		M11	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
-M27	1.006	25.55	1.000	25.4	5.315	135.0	2.500	63.5	1.594	40.5	2.500	63.5	1.884	47.9
-M28	.989	25.13	.984	25.0										
-M29	1.258	31.95	1.250	31.8	6.299	160.0	3.130	79.5	1.711	43.5	3.130	79.5	1.925	48.9
-M30	1.336	33.93	1.311	33.3										
-M36	1.186	30.12	1.181	30.0	6.299	160.0	3.130	79.5	1.711	43.5	3.130	79.5	1.925	48.9
-M37	1.265	32.13	1.260	32.0										

*TOLERANCE FOR M3: -M27 AND -M28 = ± .001 [±0.03] ALL OTHER OPTIONS = ± .002 [±0.05]

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) BRACKET MAY ROTATE 360° ABOUT M4 TUBE

MOUNTING OPTIONS: CLAMP ACCESSORIES

M38

SPHERICAL MOUNTING BRACKET FOR SQUARE TUBE

This option provides a spherical side mounting bracket for a 19.0 mm square tube.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$76.05
GRM2-B08 or GRM4	2 [6]	\$81.75

Price adder is for bracket only.

Example Ordering Data:

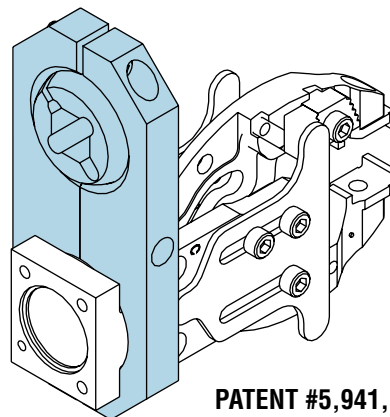
GRM2 **T** **S-2-45DDB-45DDB-LAA** **-M38**

SHADED CODES

are required for this option.

All unshaded model codes are example only.

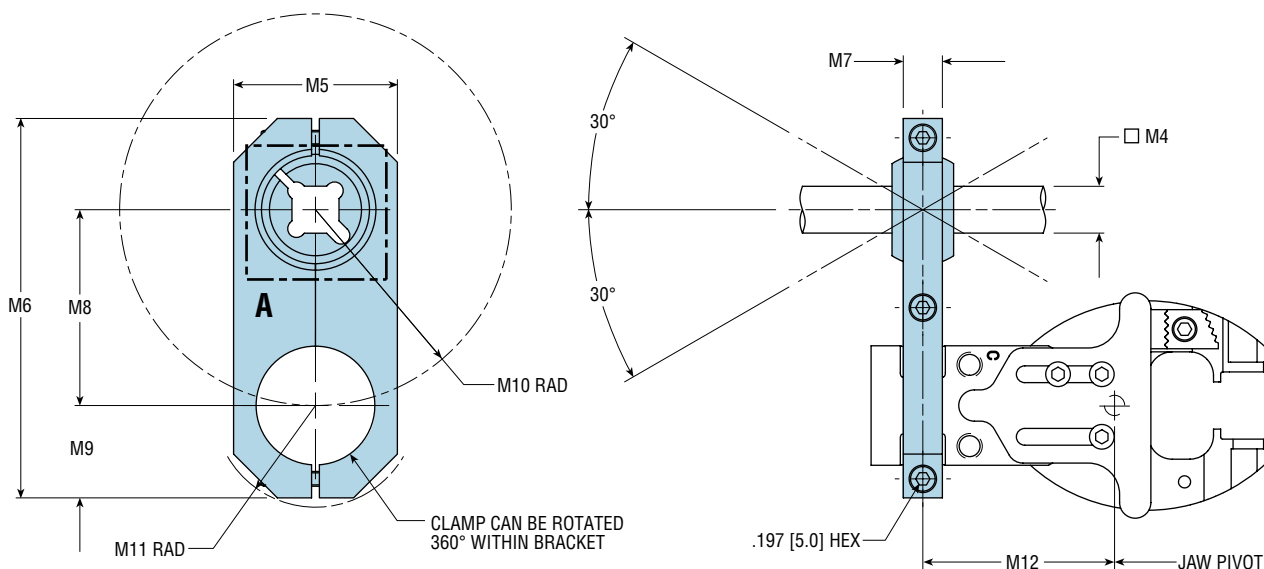
For compatibility with other units, consult PHD.



PATENT #5,941,513

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) BRACKET MAY ROTATE 360° ABOUT M4 TUBE

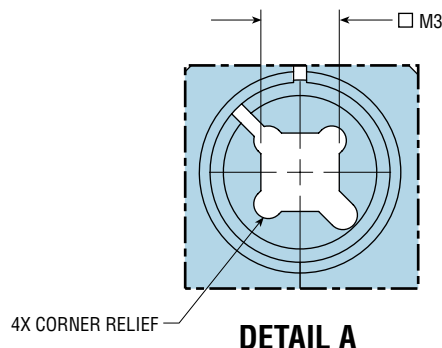


CLAMP SIZE	LETTER DIMENSION																			
	M3		M4		M5		M6		M7		M8		M9		M10		M11		M12	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
GRM2	.752	19.1	.748	19.0	2.618	66.5	6.064	154.0	.625	15.9	3.130	79.5	1.476	37.5	3.130	79.5	1.625	41.3	2.992	76.0
GRM2-B08 GRM4	.752	19.1	.748	19.0	2.618	66.5	6.299	160.0	.750	19.1	3.130	79.5	1.711	43.5	3.130	79.5	1.816	46.1	3.465	88.0
																			4.155	105.5

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
GRM2	81269-190	\$76.05
GRM2-B08 or GRM4	81270-190	\$81.75

Kit includes:
 2 Bracket Halves
 1 Spherical Ball
 3 Screws

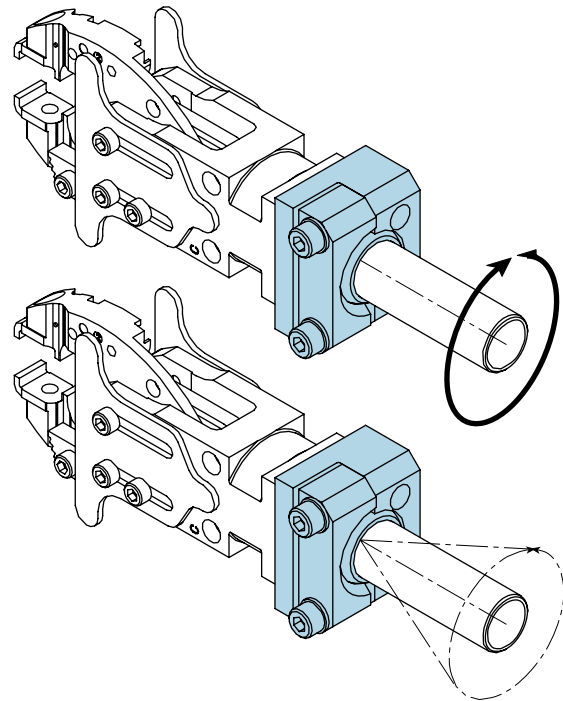


MOUNTING OPTIONS: CLAMP ACCESSORIES

M40 1" REAR MOUNTING BRACKET (SPHERICAL OR NON-SPHERICAL)

M41 25 mm REAR MOUNTING BRACKET (SPHERICAL OR NON-SPHERICAL)

These options provide a rear mounting bracket that can be either spherical or non-spherical for a 1.0 in [25.0 mm] tube. The spherical ball can be tightened or loosened by turning just one screw. Aligning the tube with the clamp centerline and pushing the tube in until it bottoms can eliminate the spherical feature. At this point, the tube can rotate, but not swivel.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	M40	\$68.05
GRM2	2 [6]	M41	\$70.20
GRM2-B08 or	2 [6]	M40	\$77.40
GRM4	2 [6]	M41	\$79.85

Price adder is for bracket only.

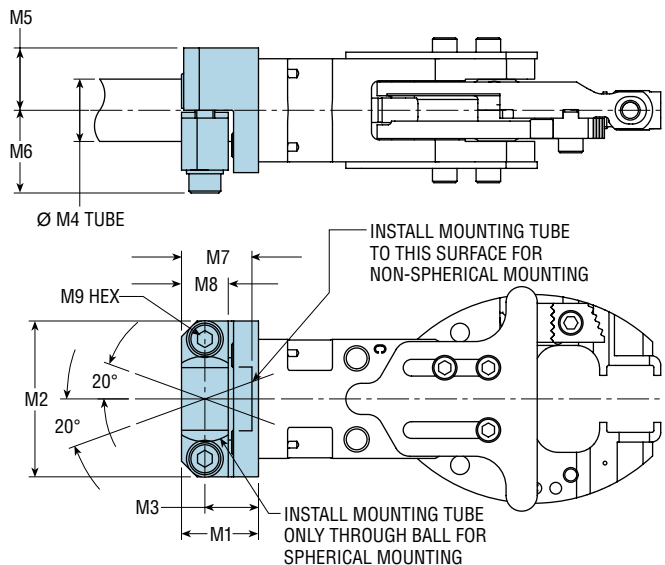
Example Ordering Data:

GRM2 **T** **S-2-45DCB-45DDB-LAA** **-M40**

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



CLAMP SIZE	LETTER DIMENSION																	
	M1	M2	M3	M4	M5	M6	M7	M8	M9									
	in	mm	in	mm	in	mm	in	mm	in	mm								
GRM2	1.235	31.4	2.500	63.5	.860	21.8	1.000	25.0	1.000	25.4	1.327	33.7	1.135	28.8	.750	19.1	.236	6.0
GRM2-B08 GRM4	1.335	33.9	2.500	63.5	.960	24.4	1.000	25.0	1.120	28.4	1.327	33.7	1.135	28.8	.750	19.1	.236	6.0

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

OPTION CODE	KIT NUMBER		LIST PRICE	
	GRM2	GRM2-B08 & GRM4	GRM2	GRM2-B08 & GRM4
M40	71201-04	71201-06	\$68.05	\$77.40
M41	71201-05	71201-07	\$70.20	\$79.85

Kit includes:

- 2 Bracket Halves
- 1 Spherical Ball
- 3 Bracket Mounting Screws
- 2 Clamp Screws
- 2 Washers

Pricing subject to change. Consult local distributor for current pricing.

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MOUNTING OPTIONS: CLAMP ACCESSORIES

M21

IMPERIAL PORTS WITH METRIC 25.0 mm
("C" MOUNTING OPTION)

M39

METRIC PORTS WITH IMPERIAL 1.0"
("C" MOUNTING OPTION)

M22

IMPERIAL PORTS WITH METRIC 25.0 mm
("R" MOUNTING OPTION)

M46

METRIC PORTS WITH IMPERIAL 1.0"
("R" MOUNTING OPTION)

M23

IMPERIAL PORTS WITH METRIC 25.0 mm
("S" MOUNTING OPTION)

M47

METRIC PORTS WITH IMPERIAL 1.0"
("S" MOUNTING OPTION)

M25

METRIC PORTS WITH IMPERIAL 1.25"
("W" MOUNTING OPTION)

M42

IMPERIAL PORTS WITH METRIC 33.3 mm
("W" MOUNTING OPTION)

M24

IMPERIAL PORTS WITH METRIC 25.0 mm
("A" MOUNTING OPTION)

M44

METRIC PORTS WITH IMPERIAL 1.0"
("A" MOUNTING OPTION)

M43

IMPERIAL PORTS WITH METRIC 33.3 mm
("B" MOUNTING OPTION)

M45

METRIC PORTS WITH IMPERIAL 1.25"
("B" MOUNTING OPTION)

These options provide imperial clamps (1/8 NPT ports) with metric mounting brackets or metric clamps (1/8 BSP ports) with imperial mounting brackets. These options are available on Series GRM2 and GRM4 Clamps.

Example Ordering Data:

GRM2 **T** S-2-45DCB-45DDB-LAA **-M21**

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

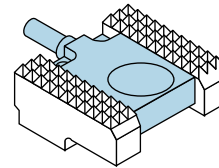
NOTE: When ordering, design no. must match imperial or metric bodies. For example: If you wish to purchase an imperial body clamp with a metric mount, the design no. must be "2". If you wish to purchase a metric body clamp with an imperial mount, the design no. must be "6".

SWITCH OPTIONS: CLAMP ACCESSORIES

S01

SWITCH INSTALLED- TURCK Bi5-Q08-AP6X2-0.25M-RS4T/S34

This option mounts the Turck Q08 switch (Bi5-Q08-AP6X2-0.25M-RS4T/S34) into the special switch mounting tips Tx025, 026, 027, 045, 046, 047, or 055.



AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$164.10

Price adder is for switch only.

Price of the special switch mounting tips can be found in Section T.

Example Ordering Data:

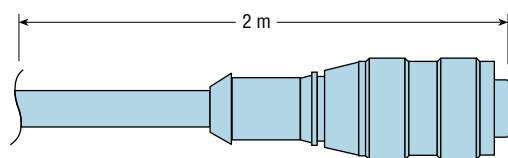
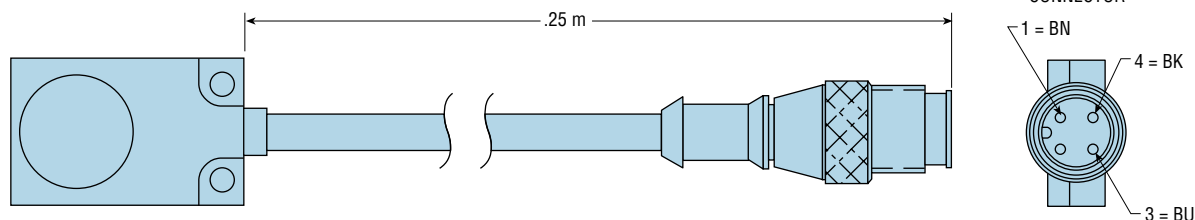
GRM2TS-2-45 **blank** -45 **blank** -LAA **-S01** -Tx025 through Tx027 -Tx022 through Tx024

SHADED CODES are required for this option.

BORDERED CODES will normally be ordered.

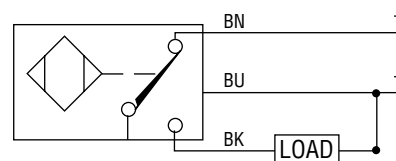
All unshaded model codes are example only.

For compatibility with other units, consult PHD.



MATING CORDSET

WIRING DIAGRAM



OUTPUT: AP6X2

SHORT CIRCUIT AND OVERLOAD PROTECTED AND WFI

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE	TURCK SWITCH NO.
2	65136-03	\$164.10	Bi5-Q08-AP6X2-0.25M-RS4T/S34

MATCHING CORDSET 2 METERS LONG

2	65413-00-02	\$22.50	RK 4T-2
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Kit includes:

- 1 Turck Q08 Switch
- 2 Screws to mount switch
- 2 Cable Clamps
- 2 Screws to mount clamps
- 1 Wire Tie

Pricing subject to change. Consult local distributor for current pricing.

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SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

SB05

5 mm THREADED SWITCH COVER - POSITION 1

SB06

5 mm THREADED SWITCH COVER - POSITION 3

These options provide jaw open and closed sensing by fixing an aluminum housing to the side of the clamp body, mounting commercially available 5 mm metal sensing switches that sense the drive pin as the clamp opens and closes. The switch location is not adjustable.

For use with customer supplied Turck 5 mm proximity switch Bi1-EG05-AP6X-V1331 or equivalent.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$69.80

Price adder is for switch cover only.

Example Ordering Data:

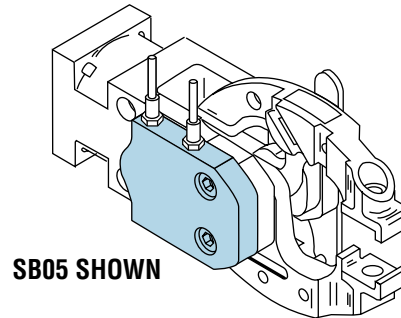
GRM2TS-2- 75 DCB-75DDB-LAA -SB05

SHADED CODES are required for this option.

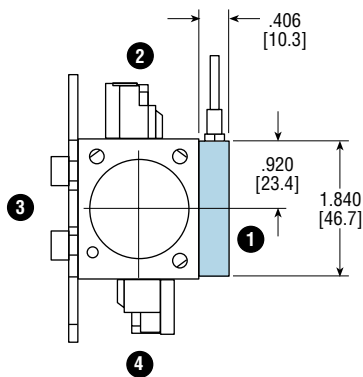
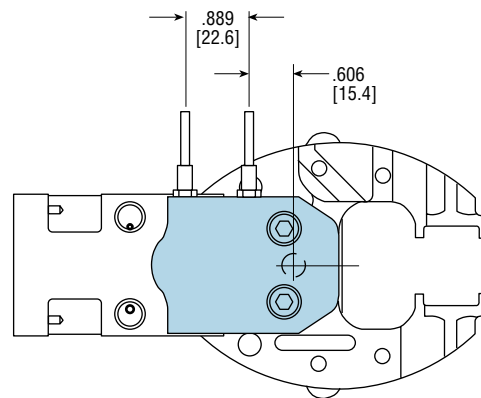
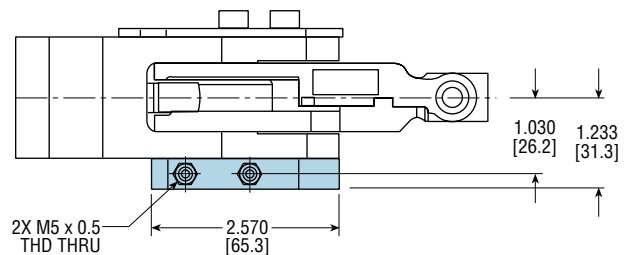
All unshaded model codes are example only.

For compatibility with other units, consult PHD.

Options SB05 and SB06 are not available with flange units.



SB05 SHOWN



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP).

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
2	65401-03	\$69.80

Kit includes:
Housing and all pins and screws required for installation.
Switches are not included.

SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

SB07

SB11

SB13

12, 8, or 5 mm SWITCH COVER
SWITCH EXIT - POSITION 2

SB08

SB12

SB14

12, 8, or 5 mm SWITCH COVER
SWITCH EXIT - POSITION 4

These options provide jaw open and closed sensing or panel present by fixing an aluminum housing to the side of the clamp body, which accommodates 5, 8, or 12 mm switches. The switches sense the position of a target on the drive pin as the clamp opens and closes. The switch locations are adjustable. **The switch cover is not available on the port side of the clamp.**

For use with the following customer supplied Turck proximity switches or equivalent: **(shielded switches only)**

5 mm = Bi1-EG05-AP6X-V1331

8 mm = Bi1.5U-EG08-AP6X-H1341

12 mm = Bi3U-EM12-AP6X-H1141

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	SB07, SB08	\$134.10
		SB11, SB12	\$144.85
		SB13, SB14	\$142.15

Price adder is for one switch cover mounted to the clamp.

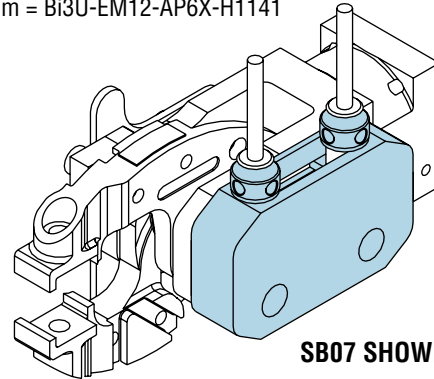
Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -SB07

SHADED CODES are required for this option.

All unshaded model codes are example only.

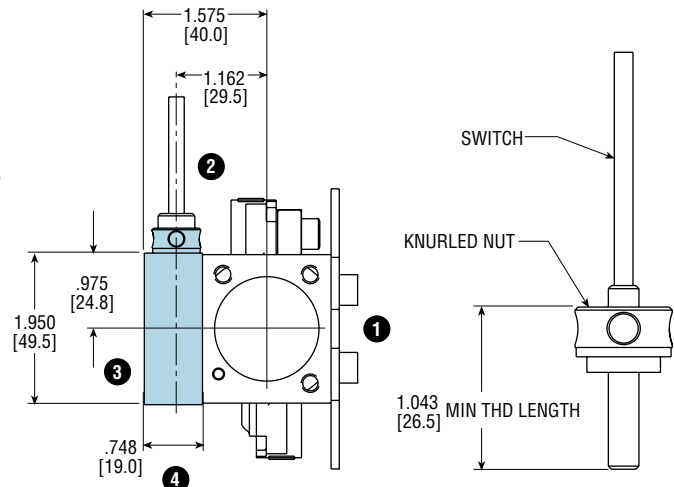
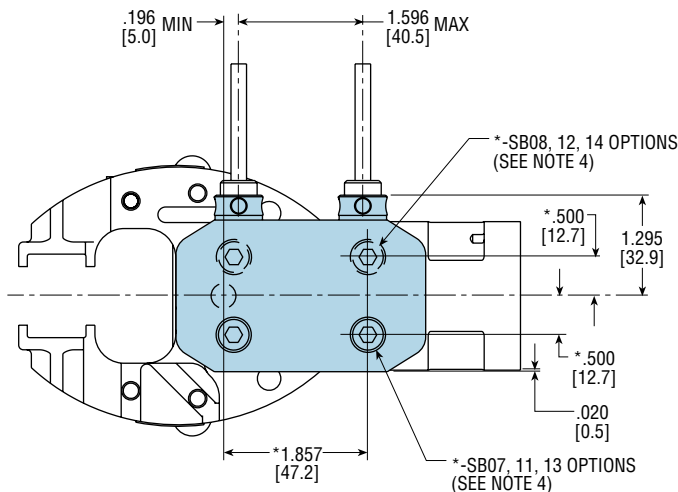
For compatibility with other units, consult PHD.



SB07 SHOWN

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP).
- 4)* = M6 x 1.0-6H THREAD THRU TO JAW SLOT REQUIRED IF ORDERING AS A KIT.



REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY
***MODIFICATION TO BODY REQUIRED IF ORDERING AS A KIT (SEE NOTE 4)**

CLAMP SIZE	OPTION	SWITCH THREAD SIZE	KIT NUMBER	LIST PRICE
2	SB07 or SB08	12 mm	65411-06	\$134.10
2	SB11 or SB12	8 mm	65411-05	\$144.85
2	SB13 or SB14	5 mm	65411-03	\$142.15
2xF or 2xK	SB07 or SB08	12 mm	65411-10	\$134.10
2xF or 2xK	SB11 or SB12	8 mm	65411-09	\$144.85
2xF or 2xK	SB13 or SB14	5 mm	65411-07	\$142.15

Kit includes:

Housing and all pins and screws required for installation. Switches are not included.

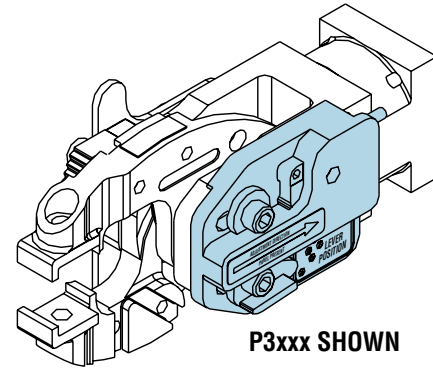
Switch Mounting Options

SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

Pxxxx

PANEL PRESENT DETECTION

Panel present detection is a process where signaling devices detect the presence of a part. The Series GRM Clamp accommodates this option by affixing an adjustable housing and switch to the side of the clamp body. The internal switch senses the position of a target on the drive pin that travels in the housing. The location of the target relates directly to jaw position and the thickness of material being clamped. This option is an excellent choice for panel present detection and will function within a wide range of material thicknesses .027 to .157 in [0.7 to 4.0 mm]. **Steel tips are recommended. For urethane tip applications, refer to Tx068 and Tx069 of the Accessories section. Single cone point to single diamond tips are not recommended for panels .039 in [1.0 mm] and below. Single diamond to single diamond tips are recommended for panels .039 in [1.0 mm] and below.**



P3xxx SHOWN

AVAILABLE ON	DESIGN NO.	ACCESSORY	BODY OPTION	JAW OPTION	HOUSING POSITION	PRICE ADDER
GRM2	2 [6]	P3Nxx	STD	C, D, G, H, J, N, P, R, S, F, K	3	\$100.50
		P1Nxx or P3Nxx	STD	L, M	1 or 3	\$110.50
		P1Nxx or P3Nxx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 or 3	\$100.50
		P3Nxx	B05, B06, B07, B08, B08A, B09	F, K	3	\$100.50
		P3xxx	STD	C, D, G, H, J, N, P, R, S, F, K	3	\$125.00
		P1xxx or P3xxx	STD	L, M	1 or 3	\$135.00
GRM4	2 [6]	P1xxx or P3xxx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 or 3	\$125.00
		P3xxx	B05, B06, B07, B08, B08A, B09	F, K	3	\$125.00
		P3Nxx	STD	G, H, J, S, F	3	\$120.95
		P3xxx	STD	G, H, J, S, F	3	\$169.75

Price adder is for one switch cover with or without switch mounted to the clamp.

Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA

-P 3 A 10

PANEL THICKNESS OPTION
 00 - No Panel
 07 - .027 in [0.7 mm]
 10 - .039 in [1.0 mm]
 40 - .157 in [4.0 mm]

SWITCH OPTION
 N - No Switch
 A - 4-Pin AC/DC Switch
 B - 3-Pin AC/DC Switch
 C - 4-Pin DC Switch
 D - 4-Pin DC Switch
 E - 3-Pin DC Switch
 F - 3-Wire DC Switch
 G - 3-Pin AC/DC Switch

HOUSING OPTION
 P - Panel Present

SWITCH HOUSING POSITION
 1 - Position 1
 3 - Position 3

SHADED CODES

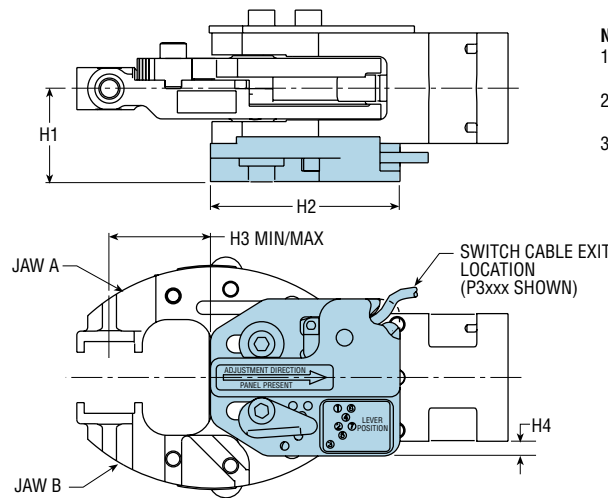
are required for this option. All unshaded model codes are example only.

Switch Option-Refer to next page for specifications.

Panel Thickness Option-Housing may be preset at the factory for panel thickness in .004 in [0.1 mm] increments.

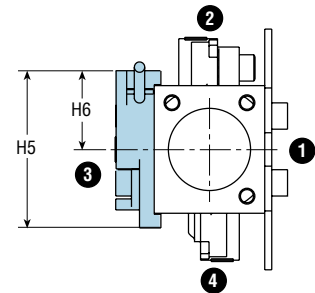
Material Thickness Range - .027 to .157 in [0.7 to 4.0 mm]

P1x00 and P3x00 options do not require factory setup. For compatibility with other units, consult PHD.



NOTES:

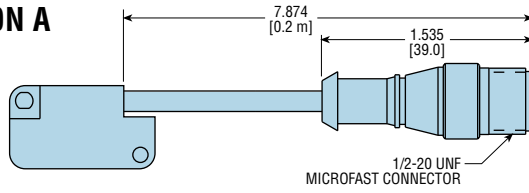
- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP)



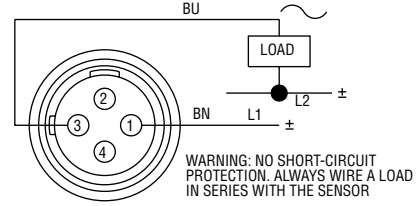
CLAMP SIZE	LETTER DIMENSION													
	H1		H2		H3 (MIN)		H3 (MAX)		H4		H5		H6	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	1.401	35.6	2.836	72.0	1.512	38.4	1.782	45.3	.220	5.6	2.350	59.7	1.175	29.8
2xL or M	1.486	37.7	2.836	72.0	1.169	29.7	1.439	36.6	.220	5.6	2.350	59.7	1.175	29.8
2xR	1.401	35.6	2.836	72.0	.822	20.9	1.092	27.7	.220	5.6	2.350	59.7	1.175	29.8
4	1.593	40.5	3.561	90.4	2.143	54.4	2.412	61.3	.287	7.3	2.750	69.9	1.375	34.9

SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

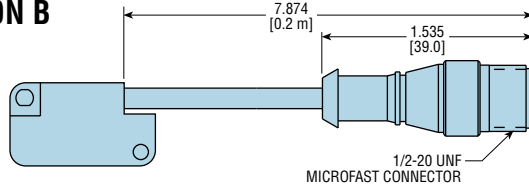
SWITCH OPTION A



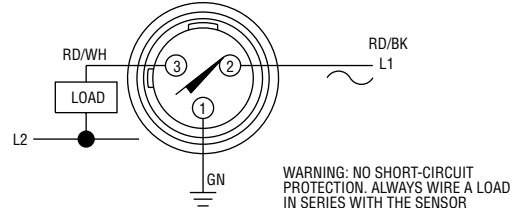
Bi 2-Q10S-AZ31X-0.2M-SB 4T/S1597



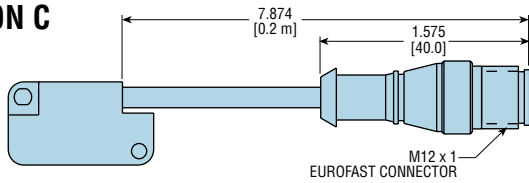
SWITCH OPTION B



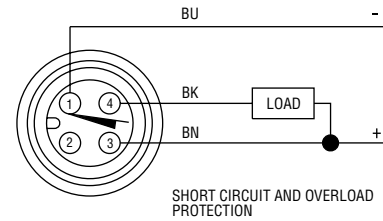
Bi 2-Q10S-AZ31X-0.2M-SB 3T



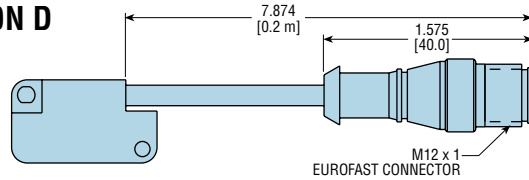
SWITCH OPTION C



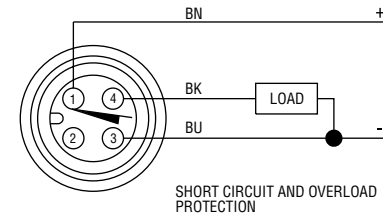
Bi 2-Q10S-AN6X-0.2M-RS 4T



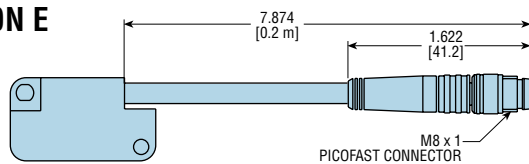
SWITCH OPTION D



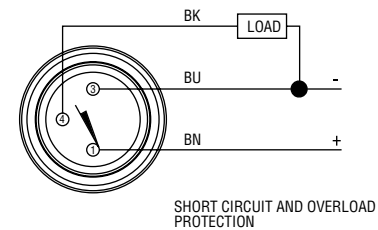
Bi 2-Q10S-AP6X-0.2M-RS 4T



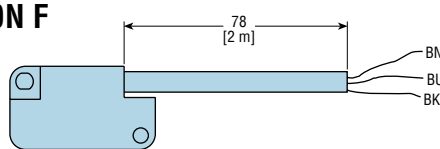
SWITCH OPTION E



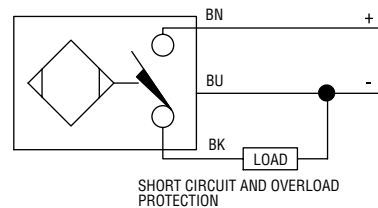
Bi 2-Q10S-AP6X-0.2M-PSG 3M



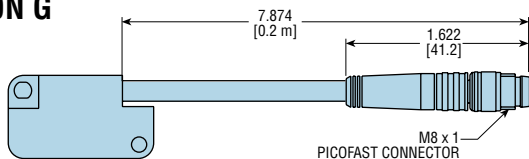
SWITCH OPTION F



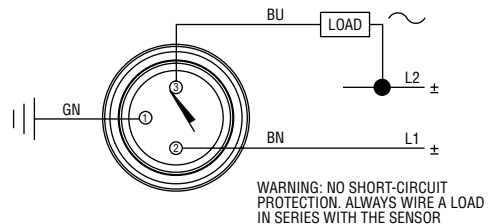
Bi 2-Q10S-AP6X



SWITCH OPTION G



Bi 2-Q10S-AZ31X-0.2M-PSG 3F



SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	ACCESSORY	KIT NUMBER	DESCRIPTION	LIST PRICE
2	PxN00	71964-03	Housing w/o switch kit	\$90.50
	PxA00	71964-04	Housing w/4-pin AC/DC switch kit	\$135.00
	PxB00	71964-15	Housing w/3-pin AC/DC switch kit	\$135.00
	PxC00	71964-35	Housing w/4-pin DC switch kit	\$135.00
	PxD00	71964-05	Housing w/4-pin DC switch kit	\$135.00
	PxE00	71964-64	Housing w/3-pin DC switch kit	\$135.00
	PxF00	71964-76	Housing w/3-wire DC switch kit	\$135.00
	PxG00	71964-88	Housing w/3-pin AC/DC switch kit	\$135.00
2xF or 2xK	PxN00	71964-06	Housing w/o switch kit	\$90.50
	PxA00	71964-07	Housing w/4-pin AC/DC switch kit	\$135.00
	PxB00	71964-16	Housing w/3-pin AC/DC switch kit	\$135.00
	PxC00	71964-53	Housing w/4-pin DC switch kit	\$135.00
	PxD00	71964-08	Housing w/4-pin DC switch kit	\$135.00
	PxE00	71964-65	Housing w/3-pin DC switch kit	\$135.00
	PxF00	71964-77	Housing w/3-wire DC switch kit	\$135.00
	PxG00	71964-89	Housing w/3-pin AC/DC switch kit	\$135.00
2xL or 2xM	PxN00	71964-27	Housing w/o switch kit	\$100.50
	PxA00	71964-28	Housing w/4-pin AC/DC switch kit	\$145.00
	PxB00	71964-29	Housing w/3-pin AC/DC switch kit	\$145.00
	PxC00	71964-54	Housing w/4-pin DC switch kit	\$145.00
	PxD00	71964-30	Housing w/4-pin DC switch kit	\$145.00
	PxE00	71964-66	Housing w/3-pin DC switch kit	\$145.00
	PxF00	71964-78	Housing w/3-wire DC switch kit	\$145.00
	PxG00	71964-90	Housing w/3-pin AC/DC switch kit	\$145.00
4	PxN00	71964-36	Housing w/o switch kit	\$130.95
	PxA00	71964-37	Housing w/4-pin AC/DC switch kit	\$179.75
	PxB00	71964-39	Housing w/3-pin AC/DC switch kit	\$179.75
	PxC00	71964-60	Housing w/4-pin DC switch kit	\$179.75
	PxD00	71964-38	Housing w/4-pin DC switch kit	\$179.75
	PxE00	71964-72	Housing w/3-pin DC switch kit	\$179.75
	PxF00	71964-84	Housing w/3-wire DC switch kit	\$179.75
	PxG00	71964-96	Housing w/3-pin AC/DC switch kit	\$179.75
4xF	PxN00	71964-40	Housing w/o switch kit	\$130.95
	PxA00	71964-41	Housing w/4-pin AC/DC switch kit	\$179.75
	PxB00	71964-43	Housing w/3-pin AC/DC switch kit	\$179.75
	PxC00	71964-61	Housing w/4-pin DC switch kit	\$179.75
	PxD00	71964-42	Housing w/4-pin DC switch kit	\$179.75
	PxE00	71964-73	Housing w/3-pin DC switch kit	\$179.75
	PxF00	71964-85	Housing w/3-wire DC switch kit	\$179.75
	PxG00	71964-97	Housing w/3-pin AC/DC switch kit	\$179.75

Kit includes: Housing and all pins and screws required for installation.

FIELD SET-UP PROCEDURE:

- Using air pressure, close clamp jaws with panel between tips.
- Loosen both screws and remove lever from locating hole.
- Slide housing in direction of arrow (toward cylinder) until switch just turns on.
- Snug flat washer screw. Housing should still slide back and forth.
- Rotate lever into hole that matches present housing location and snug screw.
- Wiggle housing forward and backward. If switch flickers off and on, rotate the lever into the next hole with a lower number (i.e., from 5 to 4). Wiggle housing again. Switch should stay on. If not, continue to lower numbered hole until switch does not flicker.
- Tighten both screws to 85 lb-in [9.6 Nm]. Switch is now set.

TO TEST THE SETUP:

- Using air pressure, close clamp jaws with panel between tips. The switch should stay on.
- Close clamp jaws with no panel between tips. The switch should turn off.

NOTE: With no panel present, the switch will flicker on as the target passes under the switch and turn off as the jaws reach full closed.

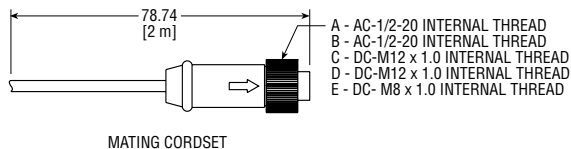
For panels .027 in [0.7 mm] and below, it may be necessary to set the switch in the first hole that flickers (see note 6). Do not rotate lever into the next hole with a lower number. Instead, leave the lever in the same hole and slide the housing in the direction of the cylinder so the switch stays on and tighten both screws.

REPLACEMENT SWITCH NUMBERS AND PRICES IF ORDERED SEPARATELY

SWITCH OPTION	SWITCH TYPE	PHD SWITCH NUMBER	PHD LIST PRICE	TURCK PART NUMBER
A	4-PIN AC/DC - N.O.	72121-001	\$60.00	Bi 2-Q10S-AZ31X-0.2M-SB 4T/S1597
B	3-PIN AC/DC - N.O.	72121-003	\$60.00	Bi 2-Q10S-AZ31X-0.2M-SB 3T
C	4-PIN DC - N.O. - NPN	72121-004	\$60.00	Bi 2-Q10S-AN6X-0.2M-RS 4T
D	4-PIN DC - N.O. - PNP	72121-002	\$60.00	Bi 2-Q10S-AP6X-0.2M-RS 4T
E	3-PIN DC - N.O. - PNP	72121-005	\$60.00	Bi 2-Q10S-AP6X-0.2M-PSG 3M
F	3-WIRE DC - N.O. - PNP	72121-008	\$60.00	Bi 2-Q10S-AP6X
G	3-PIN AC/DC - N.O.	72121-009	\$60.00	Bi 2-Q10S-AZ31X-0.2M-PSG 3F

MATCHING CORDSETS 2 METERS LONG

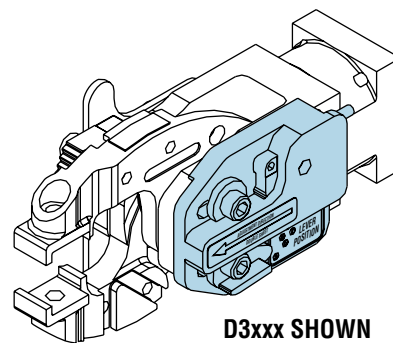
SWITCH OPTION	PHD PART NUMBER	PHD LIST PRICE	CORDSET PART NUMBER
A	—	—	—
B	76817-00-02	\$23.70	KB 3T-2
C	65413-00-02	\$22.50	RK 4T-2
D	65413-00-02	\$22.50	RK 4T-2
E	75733-00-02	\$31.20	PKG 3M-2
F	—	—	—
G	75733-00-02	\$31.20	PKG 3M-2



SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

Dxxxx DOUBLE SHEET DETECTION

Double sheet detection is a process where signaling devices detect the presence of multiple parts. The Series GRM Clamp accommodates this option by affixing an adjustable housing and switch to the side of the clamp body. The internal switch senses the position of a target on the drive pin that travels in the housing. The location of the target relates directly to jaw position and the thickness of material being clamped. This option is an excellent choice for backup or redundant signaling detection and will function within a wide range of material thicknesses .027 to .157 in [0.7 to 4.0 mm]. **Steel tips are recommended. For urethane tip applications, refer to Tx068 and Tx069 of the Accessories section. Single cone point to single diamond tips are not recommended for panels .039 in [1.0 mm] and below. Single diamond to single diamond tips are recommended for panels .039 in [1.0 mm] and below.**



D3xxx SHOWN

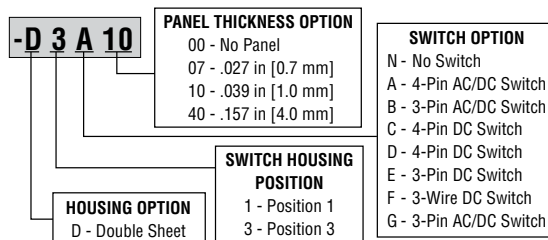
AVAILABLE ON	DESIGN NO.	ACCESSORY	BODY OPTION	JAW OPTION	HOUSING POSITION	PRICE ADDER
GRM2	2 [6]	D3Nxx	STD	C, D, G, H, J, N, P, R, S, F, K	3	\$100.50
		D1Nxx or D3Nxx	STD	L, M	1 or 3	\$110.50
		D1Nxx or D3Nxx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 or 3	\$100.50
		D3Nxx	B05, B06, B07, B08, B08A, B09	F, K	3	\$100.50
		D3xxx	STD	C, D, G, H, J, N, P, R, S, F, K	3	\$125.00
		D1xxx or D3xxx	STD	L, M	1 or 3	\$135.00
GRM4	2 [6]	D1xxx or D3xxx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 or 3	\$125.00
		D3xxx	B05, B06, B07, B08, B08A, B09	F, K	3	\$125.00
		D3Nxx	STD	G, H, J, S, F	3	\$120.95
		D3xxx	STD	G, H, J, S, F	3	\$169.75

Price adder is for one switch cover with or without switch mounted to the clamp.

Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -D 3 A 10

SHADED CODES are required for this option. All unshaded model codes are example only

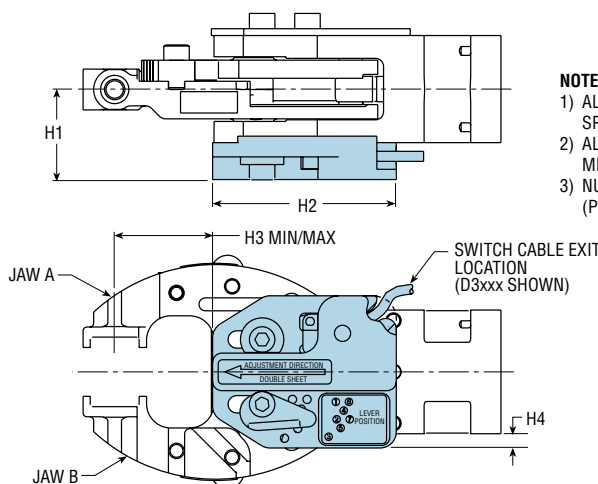


Switch Option-Refer to next page for specifications.

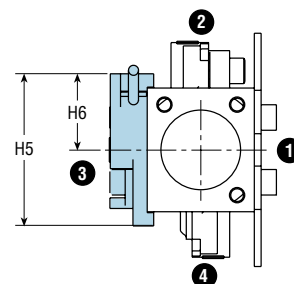
Panel Thickness Option-Housing may be preset at the factory for panel thickness in .004 in [0.1 mm] increments.

Material Thickness Range - .027 to .157 in [0.7 to 4.0 mm]

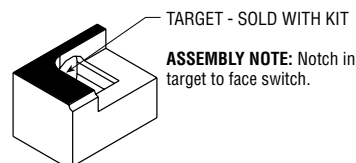
D1x00 and D3x00 options do not require factory setup. For compatibility with other units, consult PHD.



- NOTES:**
- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED
 - 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
 - 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP)



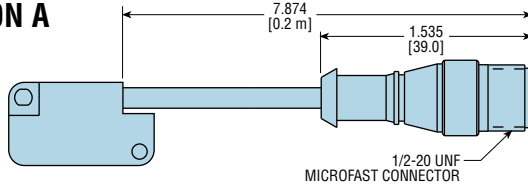
CLAMP SIZE	LETTER DIMENSION													
	H1		H2		H3 (MIN)		H3 (MAX)		H4		H5		H6	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	1.401	35.6	2.836	72.0	1.512	38.4	1.782	45.3	.220	5.6	2.350	59.7	1.175	29.8
2xL or M	1.486	37.7	2.836	72.0	1.169	38.4	1.439	36.6	.220	5.6	2.350	59.7	1.175	29.8
2xR	1.401	35.6	2.836	72.0	.822	20.9	1.092	27.7	.220	5.6	2.350	59.7	1.175	29.8
4	1.593	40.5	3.561	90.4	2.143	54.4	2.412	61.3	.287	7.3	2.750	69.9	1.375	34.9



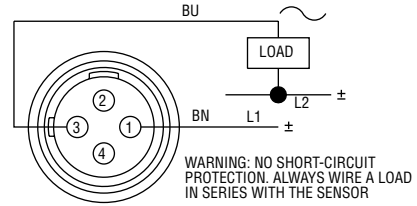
Pricing subject to change. Consult local distributor for current pricing.

SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

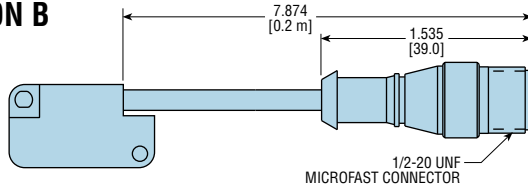
SWITCH OPTION A



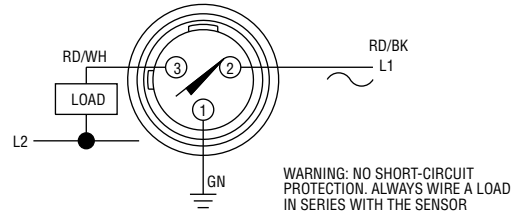
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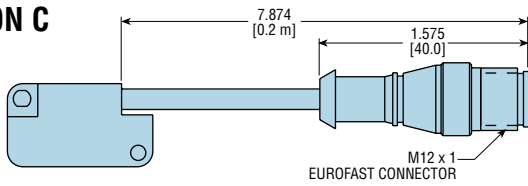
SWITCH OPTION B



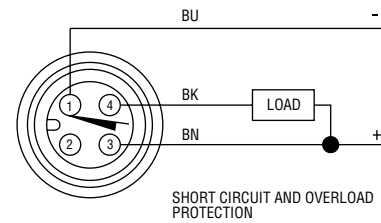
Bi 2-Q10S-AZ31X-0.2M-SB 3T



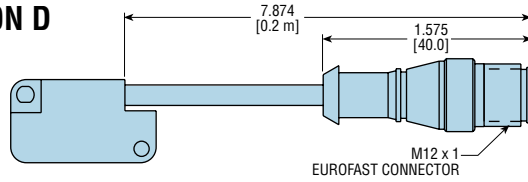
SWITCH OPTION C



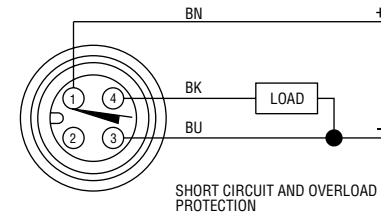
Bi 2-Q10S-AN6X-0.2M-RS 4T



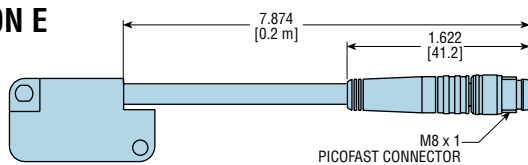
SWITCH OPTION D



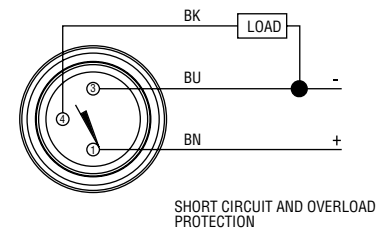
Bi 2-Q10S-AP6X-0.2M-RS 4T



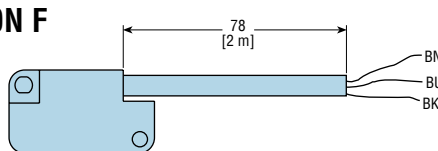
SWITCH OPTION E



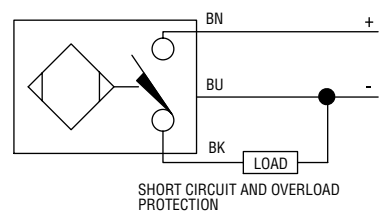
Bi 2-Q10S-AP6X-0.2M-PSG 3M



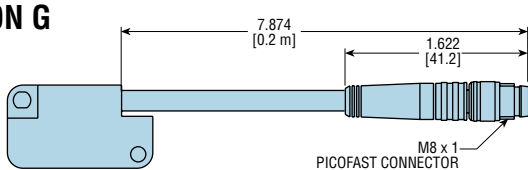
SWITCH OPTION F



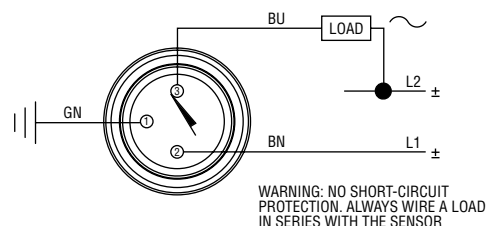
Bi 2-Q10S-AP6X



SWITCH OPTION G



Bi 2-Q10S-AZ31X-0.2M-PSG 3F



Switch Mounting Options

SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	ACCESSORY	KIT NUMBER	DESCRIPTION	LIST PRICE
2	DxN00	71964-09	Housing w/o switch kit	\$90.50
	DxA00	71964-10	Housing w/4-pin AC/DC switch kit	\$135.00
	DxB00	71964-17	Housing w/3-pin AC/DC switch kit	\$135.00
	DxC00	71964-55	Housing w/4-pin DC switch kit	\$135.00
	DxD00	71964-11	Housing w/4-pin DC switch kit	\$135.00
	DxE00	71964-67	Housing w/3-pin DC switch kit	\$135.00
	DxF00	71964-79	Housing w/3-wire DC switch kit	\$135.00
	DxG00	71964-91	Housing w/3-pin AC/DC switch kit	\$135.00
2xF or 2xK	DxN00	71964-12	Housing w/o switch kit	\$90.50
	DxA00	71964-13	Housing w/4-pin AC/DC switch kit	\$135.00
	DxB00	71964-18	Housing w/3-pin AC/DC switch kit	\$135.00
	DxC00	71964-56	Housing w/4-pin DC switch kit	\$135.00
	DxD00	71964-14	Housing w/4-pin DC switch kit	\$135.00
	DxE00	71964-68	Housing w/3-pin DC switch kit	\$135.00
	DxF00	71964-80	Housing w/3-wire DC switch kit	\$135.00
	DxG00	71964-92	Housing w/3-pin AC/DC switch kit	\$135.00
2xL or 2xM	DxN00	71964-23	Housing w/o switch kit	\$100.50
	DxA00	71964-24	Housing w/4-pin AC/DC switch kit	\$145.00
	DxB00	71964-25	Housing w/3-pin AC/DC switch kit	\$145.00
	DxC00	71964-57	Housing w/4-pin DC switch kit	\$145.00
	DxD00	71964-26	Housing w/4-pin DC switch kit	\$145.00
	DxE00	71964-69	Housing w/3-pin DC switch kit	\$145.00
	DxF00	71964-81	Housing w/3-wire DC switch kit	\$145.00
	DxG00	71964-93	Housing w/3-pin AC/DC switch kit	\$145.00
4	DxN00	71964-44	Housing w/o switch kit	\$130.95
	DxA00	71964-45	Housing w/4-pin AC/DC switch kit	\$179.75
	DxB00	71964-47	Housing w/3-pin AC/DC switch kit	\$179.75
	DxC00	71964-62	Housing w/4-pin DC switch kit	\$179.75
	DxD00	71964-46	Housing w/4-pin DC switch kit	\$179.75
	DxE00	71964-74	Housing w/3-pin DC switch kit	\$179.75
	DxF00	71964-86	Housing w/3-wire DC switch kit	\$179.75
	DxG00	71964-98	Housing w/3-pin AC/DC switch kit	\$179.75
4xF	DxN00	71964-48	Housing w/o switch kit	\$130.95
	DxA00	71964-49	Housing w/4-pin AC/DC switch kit	\$179.75
	DxB00	71964-51	Housing w/3-pin AC/DC switch kit	\$179.75
	DxC00	71964-63	Housing w/4-pin DC switch kit	\$179.75
	DxD00	71964-50	Housing w/4-pin DC switch kit	\$179.75
	DxE00	71964-75	Housing w/3-pin DC switch kit	\$179.75
	DxF00	71964-87	Housing w/3-wire DC switch kit	\$179.75
	DxG00	71964-99	Housing w/3-pin AC/DC switch kit	\$179.75

Kit includes: Housing and all pins and screws required for installation.

FIELD SET-UP PROCEDURE:

- Using pressure, close clamp jaws with one panel between tips.
- Loosen both screws and remove lever from locating hole.
- Slide housing in direction of arrow (toward jaws) until switch just turns on.
- Snug flat washer screw. The housing should still slide back and forth.
- Rotate lever into hole that matches present housing location and snug screw.
- Wiggle housing forward and backward. If switch flickers off and on, rotate the lever into the next hole with a higher number (i.e., from 2 to 3). Wiggle housing again. Switch should stay on. If not, continue to higher numbered hole until switch does not flicker.
- Tighten both screws to 85 lb-in [9.6 Nm]. Switch is now set.

TO TEST THE SETUP:

- Using pressure, close clamp jaws with one panel between tips. The switch should stay on.
- Close clamp jaws with two panels between tips. The switch should turn off.

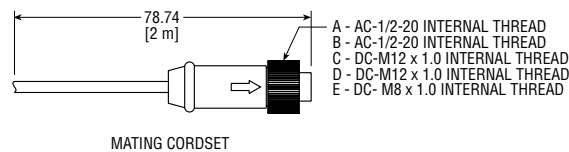
NOTE: With no panel present, the switch will turn on and remain on as the target passes under the switch.

REPLACEMENT SWITCH NUMBERS AND PRICES IF ORDERED SEPARATELY

SWITCH OPTION	SWITCH TYPE	PHD SWITCH NUMBER	PHD LIST PRICE	TURCK PART NUMBER
A	4-PIN AC/DC - N.O.	72121-001	\$60.00	Bi 2-Q10S-AZ31X-0.2M-SB 4T/S1597
B	3-PIN AC/DC - N.O.	72121-003	\$60.00	Bi 2-Q10S-AZ31X-0.2M-SB 3T
C	4-PIN DC - N.O. - NPN	72121-004	\$60.00	Bi 2-Q10S-AN6X-0.2M-RS 4T
D	4-PIN DC - N.O. - PNP	72121-002	\$60.00	Bi 2-Q10S-AP6X-0.2M-RS 4T
E	3-PIN DC - N.O. - PNP	72121-005	\$60.00	Bi 2-Q10S-AP6X-0.2M-PSG 3M
F	3-WIRE DC - N.O. - PNP	72121-008	\$60.00	Bi 2-Q10S-AP6X
G	3-PIN AC/DC - N.O.	72121-009	\$60.00	Bi 2-Q10S-AZ31X-0.2M-PSG 3F

MATCHING CORDSETS 2 METERS LONG

SWITCH OPTION	PHD PART NUMBER	PHD LIST PRICE	CORDSET PART NUMBER
A	—	—	—
B	76817-00-02	\$23.70	KB 3T-2
C	65413-00-02	\$22.50	RK 4T-2
D	65413-00-02	\$22.50	RK 4T-2
E	75733-00-02	\$31.20	PKG 3M-2
F	—	—	—
G	75733-00-02	\$31.20	PKG 3M-2

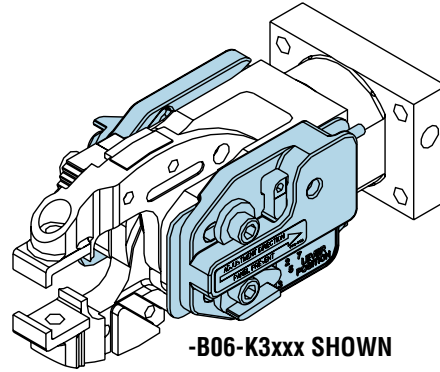


SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES



PANEL PRESENT AND DOUBLE SHEET DETECTION

This option provides panel present and double sheet detection on one Series GRM clamp. This is accomplished by affixing two adjustable housings and switches to the sides of the clamp body. The internal switches sense the position of the targets on the drive pin that travels in the housings. The location of the targets relates directly to jaw position and the thickness of the material being clamped. This option is an excellent choice for panel present detection and backup or redundant signaling detection. This option will also function within a wide range of material thicknesses .027 to .157 in [0.7 to 4.0 mm]. **Steel tips are recommended. For urethane tip applications, refer to Tx068 and Tx069 of the Accessories section. Single cone point to single diamond tips are not recommended for panels .039 in [1.0 mm] and below. Single diamond to single diamond tips are recommended for panels .039 in [1.0 mm] and below.**



-B06-K3xxx SHOWN

Specific body options are required for this option. See the chart below for available bodies.

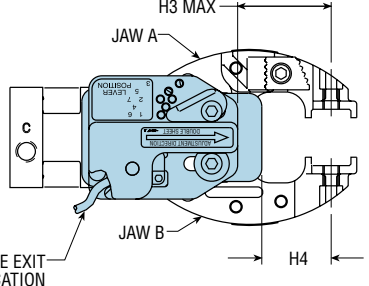
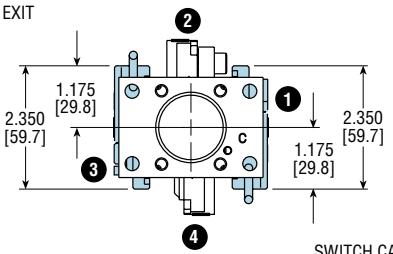
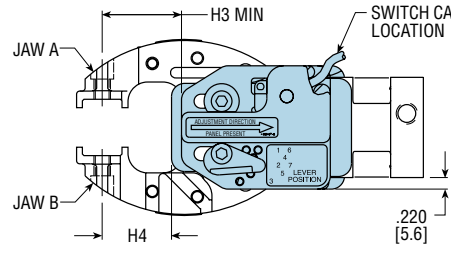
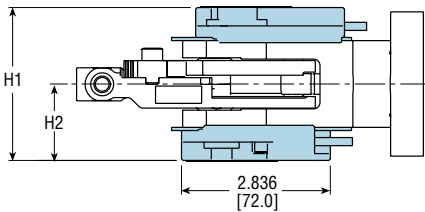
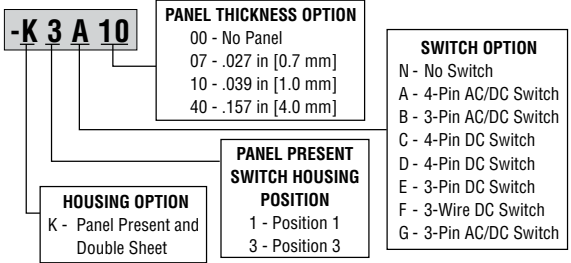
AVAILABLE ON	DESIGN NO.	ACCESSORY	BODY OPTION	JAW OPTION	HOUSING POSITION	PRICE ADDER
GRM2	2 [6]	K1Nxx or K3Nxx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 and 3	\$219.70
		K1xxx or K3xxx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 and 3	\$268.70
		K1Nxx or K3Nxx	STD	L, M	1 and 3	\$219.70
		K1xxx or K3xxx	STD	L, M	1 and 3	\$268.70

Price adder is for two switch covers with or without switches mounted to the clamp.

Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA-B06-K 3 A 10

SHADED CODES are required for this option. All unshaded model codes are example only.



Switch Option - Refer to next page for specifications.
Panel Thickness Option - Housings may be preset at the factory for panel thickness in .004 in [0.1 mm] increments.
Material Thickness Range - .027 to .157 in [0.7 to 4.0 mm]
 K1x00 and K3x00 options do not require factory setup. For compatibility with other units, consult PHD.

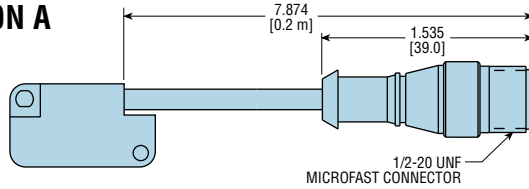
CLAMP SIZE	LETTER DIMENSION									
	H1		H2		H3 (MIN)		H3 (MAX)		H4	
	in	mm	in	mm	in	mm	in	mm	in	mm
2	2.922	74.2	1.461	37.1	1.512	38.4	1.782	45.3	1.322	33.6
2xL or M	3.099	78.7	1.550	39.4	1.169	29.7	1.439	36.6	.978	24.8
2xR	2.922	74.2	1.461	37.1	.822	20.9	1.092	27.7	.632	16.1

NOTES:
 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED
 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS
 1 mm = .03937 in
 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP)

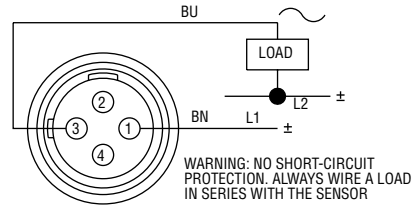
Switch Mounting Options

SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

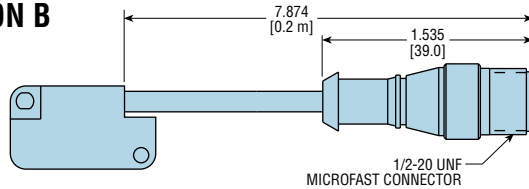
SWITCH OPTION A



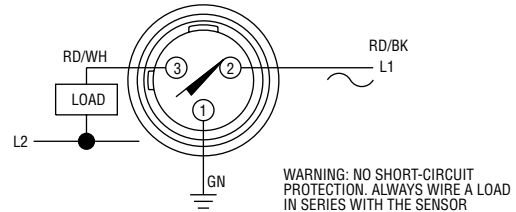
Bi 2-Q10S-AZ31X-0.2M-SB 4T/S1597



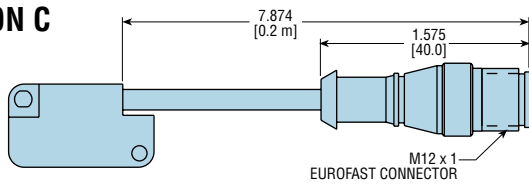
SWITCH OPTION B



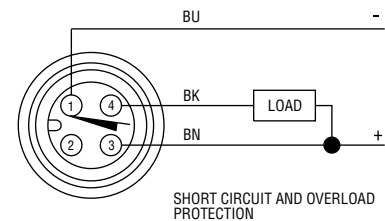
Bi 2-Q10S-AZ31X-0.2M-SB 3T



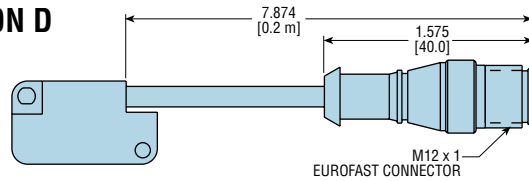
SWITCH OPTION C



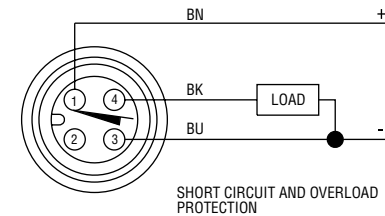
Bi 2-Q10S-AN6X-0.2M-RS 4T



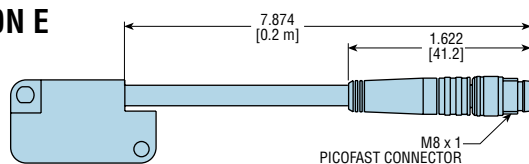
SWITCH OPTION D



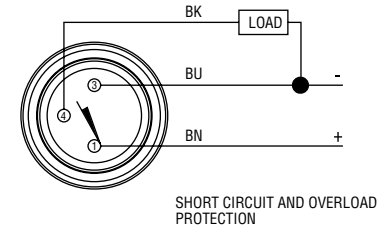
Bi 2-Q10S-AP6X-0.2M-RS 4T



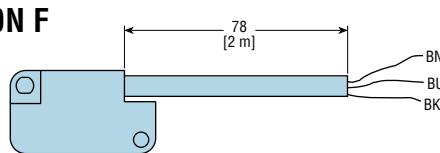
SWITCH OPTION E



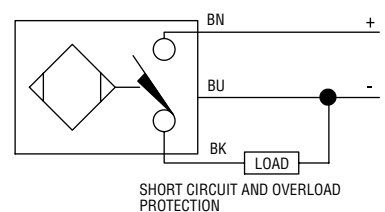
Bi 2-Q10S-AP6X-0.2M-PSG 3M



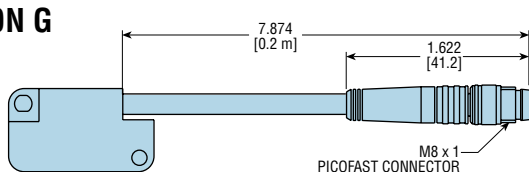
SWITCH OPTION F



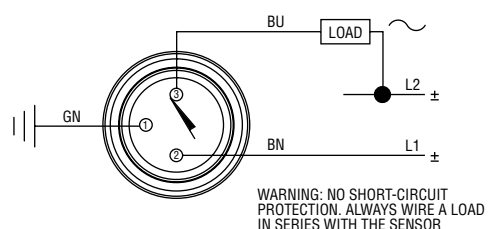
Bi 2-Q10S-AP6X



SWITCH OPTION G



Bi 2-Q10S-AZ31X-0.2M-PSG 3F



Pricing subject to change. Consult local distributor for current pricing.

SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT		DESCRIPTION	LIST PRICE
	ACCESSORY	NUMBER		
2	KxN00	71964-19	Housing w/o switch kit	\$199.70
	KxA00	71964-20	Housing w/4-pin AC/DC switch kit	\$288.70
	KxB00	71964-22	Housing w/3-pin AC/DC switch kit	\$288.70
	KxC00	71964-58	Housing w/4-pin DC switch kit	\$288.70
	KxD00	71964-21	Housing w/4-pin DC switch kit	\$288.70
	KxE00	71964-70	Housing w/3-pin DC switch kit	\$288.70
	KxF00	71964-82	Housing w/3-wire DC switch kit	\$288.70
	KxG00	71964-94	Housing w/3-pin AC/DC switch kit	\$288.70
2xL or 2xM	KxN00	71964-31	Housing w/o switch kit	\$199.70
	KxA00	71964-32	Housing w/4-pin AC/DC switch kit	\$288.70
	KxB00	71964-33	Housing w/3-pin AC/DC switch kit	\$288.70
	KxC00	71964-59	Housing w/4-pin DC switch kit	\$288.70
	KxD00	71964-34	Housing w/4-pin DC switch kit	\$288.70
	KxE00	71964-71	Housing w/3-pin DC switch kit	\$288.70
	KxF00	71964-83	Housing w/3-wire DC switch kit	\$288.70
	KxG00	71964-95	Housing w/3-pin AC/DC switch kit	\$288.70

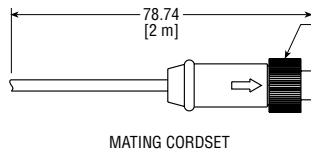
Kit includes: Housing and all pins and screws required for installation.

REPLACEMENT SWITCH NUMBERS AND PRICES IF ORDERED SEPARATELY

SWITCH OPTION	SWITCH TYPE	PHD SWITCH NUMBER	PHD LIST PRICE	TURCK PART NUMBER
A	4-PIN AC/DC - N.O.	72121-001	\$60.00	Bi 2-Q10S-AZ31X-0.2M-SB 4T/S1597
B	3-PIN AC/DC - N.O.	72121-003	\$60.00	Bi 2-Q10S-AZ31X-0.2M-SB 3T
C	4-PIN DC - N.O. - NPN	72121-004	\$60.00	Bi 2-Q10S-AN6X-0.2M-RS 4T
D	4-PIN DC - N.O. - PNP	72121-002	\$60.00	Bi 2-Q10S-AP6X-0.2M-RS 4T
E	3-PIN DC - N.O. - PNP	72121-005	\$60.00	Bi 2-Q10S-AP6X-0.2M-PSG 3M
F	3-WIRE DC - N.O. - PNP	72121-008	\$60.00	Bi 2-Q10S-AP6X
G	3-PIN AC/DC - N.O.	72121-009	\$60.00	Bi 2-Q10S-AZ31X-0.2M-PSG 3F

MATCHING CORDSETS 2 METERS LONG

SWITCH OPTION	PHD PART NUMBER	PHD LIST PRICE	CORDSET PART NUMBER
A	—	—	—
B	76817-00-02	\$23.70	KB 3T-2
C	65413-00-02	\$22.50	RK 4T-2
D	65413-00-02	\$22.50	RK 4T-2
E	75733-00-02	\$31.20	PKG 3M-2
F	—	—	—
G	75733-00-02	\$31.20	PKG 3M-2



- A - AC-1/2-20 INTERNAL THREAD
- B - AC-1/2-20 INTERNAL THREAD
- C - DC-M12 x 1.0 INTERNAL THREAD
- D - DC-M12 x 1.0 INTERNAL THREAD
- E - DC-M8 x 1.0 INTERNAL THREAD

MATING CORDSET

PANEL PRESENT DETECTION FIELD SET-UP PROCEDURE

- Using air pressure, close clamp jaws with panel between tips.
- Loosen both screws and remove lever from locating hole.
- Slide housing in direction of arrow (toward cylinder) until switch just turns on.
- Snug flat washer screw. Housing should still slide back and forth.
- Rotate lever into hole that matches present housing location and snug screw.
- Wiggle housing forward and backward. If switch flickers off and on, rotate the lever into the next hole with a lower number (i.e., from 5 to 4). Wiggle housing again. Switch should stay on. If not, continue to lower numbered hole until switch does not flicker.
- Tighten both screws to 85 lb-in [9.6 Nm]. Switch is now set.

TO TEST THE SETUP:

- Using air pressure, close clamp jaws with panel between tips. The switch should stay on.
- Close clamp jaws with no panel between tips. The switch should turn off.

NOTE: With no panel present, the switch will flicker on as the target passes under the switch and turn off as the jaws reach full closed. For panels .027 in [0.7 mm] and below, it may be necessary to set the switch in the first hole that flickers (see note 6). Do not rotate lever into the next hole with a lower number. Instead, leave the lever in the same hole and slide the housing in the direction of the cylinder so the switch stays on and tighten both screws.

DOUBLE SHEET DETECTION FIELD SET-UP PROCEDURE

- Using pressure, close clamp jaws with one panel between tips.
- Loosen both screws and remove lever from locating hole.
- Slide housing in direction of arrow (toward jaws) until switch just turns on.
- Snug flat washer screw. The housing should still slide back and forth.
- Rotate lever into hole that matches present housing location and snug screw.
- Wiggle housing forward and backward. If switch flickers off and on, rotate the lever into the next hole with a higher number (i.e., from 2 to 3). Wiggle housing again. Switch should stay on. If not, continue to higher numbered hole until switch does not flicker.
- Tighten both screws to 85 lb-in [9.6 Nm]. Switch is now set.

TO TEST THE SETUP:

- Using pressure, close clamp jaws with one panel between tips. The switch should stay on.
- Close clamp jaws with two panels between tips. The switch should turn off.

NOTE: With no panel present, the switch will turn on and remain on as the target passes under the switch.

SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

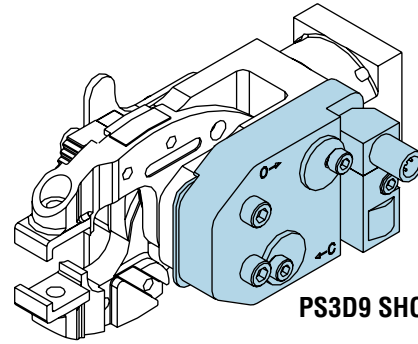
PS(R)xxx POSITIONAL SENSING DETECTION

This option provides jaw open and jaw closed sensing by affixing an aluminum housing to the side of the clamp body. The adjustable switches sense the position of a target on the drive pin as the clamp opens and closes.

PS positions satellite switch S02 to sense open and S01 to sense close. PR positions satellite switch S01 to sense open and S02 to sense close. See tables on switch option page for satellite switch to quick disconnect pin number relationships.

For use with the following PHD or customer supplied switches or equivalent:

Ni 2-Q6.5-ADZ32-0.16-FSB 5.4X4/S304 (Turck) IN 5375 (Efector)
 NBN2-F581-160S6-E8-V1 (P + F) NBN2-F581-160S6-E10-V1 (P + F)
 Ni 2-Q6.5-0.16-BDS-2AP6X3-H1141/S34 (Turck) Ni 2-Q6.5-AN6-0.16-FS 4.4X3/S304 (Turck)



PS3D9 SHOWN

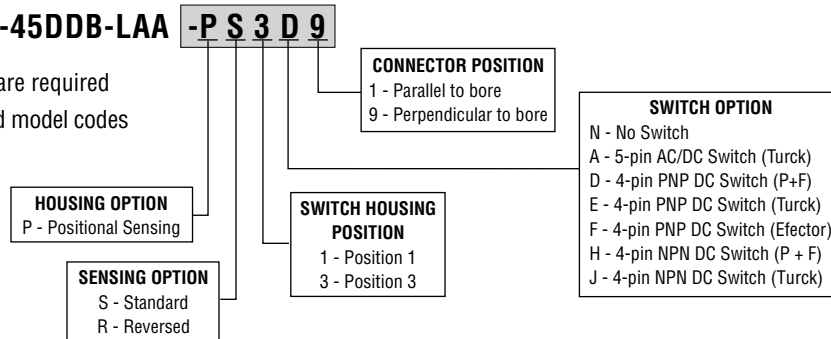
AVAILABLE ON	DESIGN NO.	ACCESSORY	BODY OPTION	JAW OPTION	HOUSING POSITION	PRICE ADDER
GRM2	2 [6]	PS(R)3Nx	STD	C, D, G, H, J, N, P, R, S, F, K	3	\$85.80
		PS(R)xNx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 or 3	\$85.80
		PS(R)3Nx	B05, B06, B07, B08, B08A, B09	F, K	3	\$85.80
		PS(R)3A1	STD	C, D, G, H, J, N, P, R, S, F, K	3	\$284.90
		PS(R)xA1	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 or 3	\$284.90
		PS(R)3A1	B05, B06, B07, B08, B08A, B09	F, K	3	\$284.90
		PS(R)3Dx, PS(R)3Ex, PS(R)3Fx	STD	C, D, G, H, J, N, P, R, S, F, K	3	\$198.00
		PS(R)xDx, PS(R)xEx, PS(R)xFx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 or 3	\$198.00
		PS(R)3Dx, PS(R)3Ex, PS(R)3Fx	B05, B06, B07, B08, B08A, B09	F, K	3	\$198.00
		PS(R)3Hx	STD	C, D, G, H, J, N, P, R, S, F, K	3	\$284.90
		PS(R)xHx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 or 3	\$284.90
		PS(R)3Hx	B05, B06, B07, B08, B08A, B09	F, K	3	\$284.90
		PS(R)3Jx	STD	C, D, G, H, J, N, P, R, S, F, K	3	\$198.00
		PS(R)xJx	B05, B06, B07, B08, B08A, B09	C, D, G, H, J, N, P, R, S	1 or 3	\$198.00
		PS(R)3Jx	B05, B06, B07, B08, B08A, B09	F, K	3	\$198.00
GRM4	2 [6]	PS(R)3Nx	STD	G, H, J, S, F	3	\$91.85
		PS(R)3A1	STD	G, H, J, S, F	3	\$284.90
		PS(R)3Dx	STD	G, H, J, S, F	3	\$198.00
		PS(R)3Ex	STD	G, H, J, S, F	3	\$198.00
		PS(R)3Fx	STD	G, H, J, S, F	3	\$198.00
		PS(R)3Hx	STD	G, H, J, S, F	3	\$284.90
		PS(R)3Jx	STD	G, H, J, S, F	3	\$198.00

Price adder is for one switch cover with or without switch mounted to the clamp.

Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -PS3D9

SHADED CODES are required for this option. All unshaded model codes are example only.



Switch Option-Refer to next page for specifications.

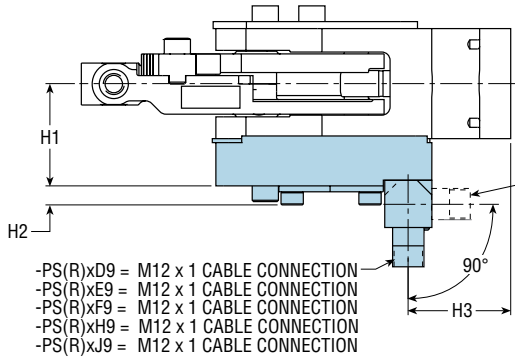
Connector Position-

-PS(R)xA1, -PS(R)xD1, -PS(R)xE1, -PS(R)xF1, -PS(R)xH1, and -PS(R)xJ1 options not recommended for use with C mounts.

Connector position 1 will limit rotation about the clamp body for the following mounts: R, S, and W.

Switch Mounting Options

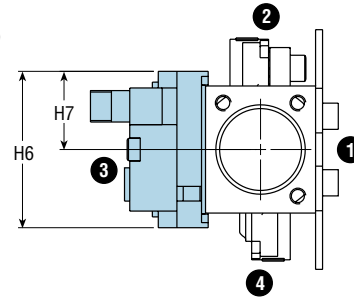
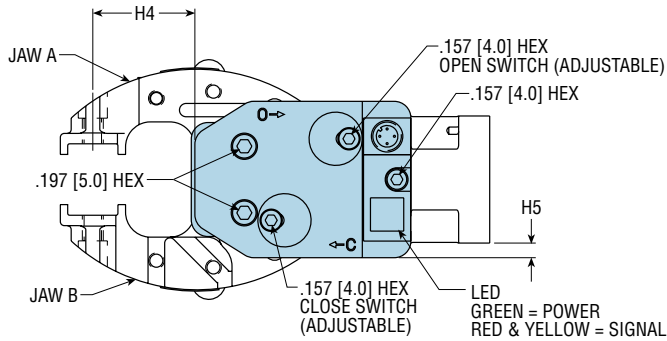
SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) NUMBERS IN CIRCLES INDICATE POSITION (POSITION 1 IS PORT SIDE OF CLAMP)

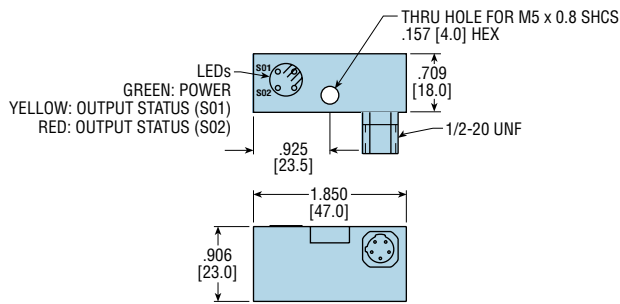
- PS(R)xA1 = 1/2-20 UNF CABLE CONNECTION
- PS(R)xD1 = M12 x 1 CABLE CONNECTION
- PS(R)xE1 = M12 x 1 CABLE CONNECTION
- PS(R)xF1 = M12 x 1 CABLE CONNECTION
- PS(R)xH1 = M12 x 1 CABLE CONNECTION
- PS(R)xJ1 = M12 x 1 CABLE CONNECTION



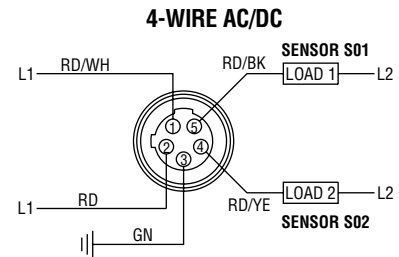
CLAMP SIZE	LETTER DIMENSION													
	H1		H2		H3		H4		H5		H6		H7	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	1.537	39.0	.286	7.3	1.542	39.2	1.534	39.0	.220	5.6	2.350	59.7	1.175	29.8
2xR	1.537	39.0	.286	7.3	1.542	39.2	.844	21.4	.220	5.6	2.350	59.7	1.175	29.8
4	1.700	43.2	.236	6.0	2.379	60.4	2.164	55.0	.220	5.6	2.620	66.5	1.310	33.3

SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

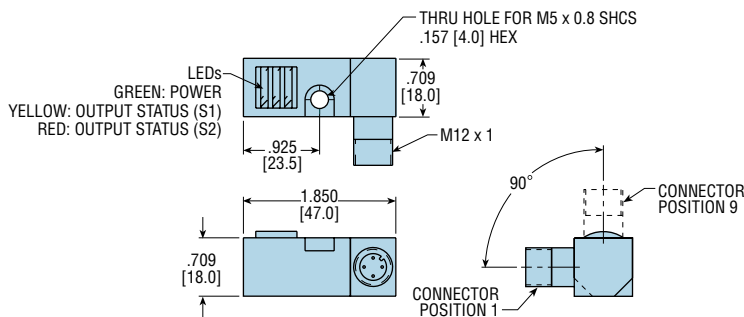
SWITCH OPTION A Turck Part #: Ni 2-Q6.5-ADZ32-0.16-FSB 5.4X4/S304



OPTION CODE	SATELLITE		QUICK DISCONNECT PIN NUMBER
	UNCLAMPED	CLAMPED	
PSxA1	S02	S01	S01 = PIN 5
PRxA1	S01	S02	S02 = PIN 4

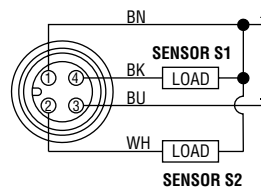


SWITCH OPTION D P + F Part #: NBN2-F581-160S6-E8-V1 (PNP) SWITCH OPTION H P + F Part #: NBN2-F581-160S6-E10-V1 (NPN)

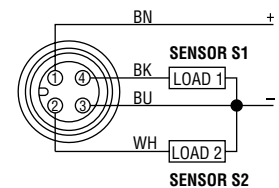


OPTION CODE	SATELLITE		QUICK DISCONNECT PIN NUMBER
	UNCLAMPED	CLAMPED	
PSxDx	S2	S1	S1 = PIN 4
PRxDx	S1	S2	S2 = PIN 2

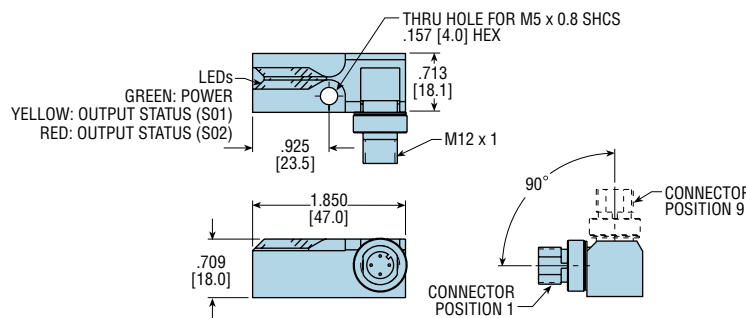
4-WIRE DC (V1 TYPE)
NPN DUAL NORMALLY OPEN



4-WIRE DC (V1 TYPE)
PNP DUAL NORMALLY OPEN

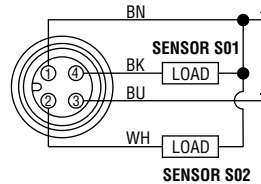


SWITCH OPTION E Turck Part #: Ni 2-Q6.5-0.16-BDS-2AP6X3-H1141/S34 (PNP) SWITCH OPTION J Turck Part #: Ni-2-Q6.5-AN6-0.16-FS 4.4X3/S304 (NPN)

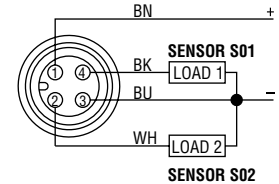


OPTION CODE	SATELLITE		QUICK DISCONNECT PIN NUMBER
	UNCLAMPED	CLAMPED	
PSxEx	S02	S01	S01 = PIN 4
PRxEx	S01	S02	S02 = PIN 2

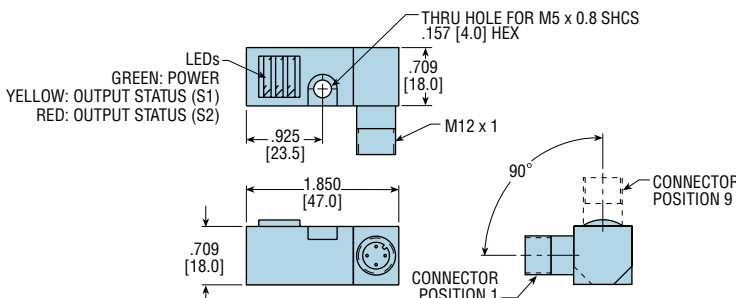
4-WIRE DC (V1 TYPE)
NPN DUAL NORMALLY OPEN



4-WIRE DC
PNP DUAL NORMALLY OPEN

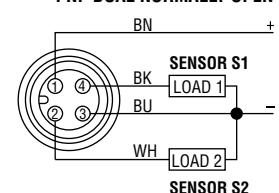


SWITCH OPTION F Efector Part #: IN 5375 (PNP)



OPTION CODE	SATELLITE		QUICK DISCONNECT PIN NUMBER
	UNCLAMPED	CLAMPED	
PSxFx	S2	S1	S1 = PIN 4
PRxFx	S1	S2	S2 = PIN 2

4-WIRE DC
PNP DUAL NORMALLY OPEN



Pricing subject to change. Consult local distributor for current pricing.

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SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	ACCESSORY	KIT NUMBER	DESCRIPTION	LIST PRICE
2	PS(R)xNx	72914-03	Housing w/o switch kit	\$102.50
	PS(R)xA1	72914-07	Housing w/5-pin AC/DC (Turck) switch kit	\$301.60
	PS(R)xDx	72914-04	Housing w/4-pin DC (P+F) switch kit	\$214.50
	PS(R)xEx	72914-09	Housing w/4-pin DC (Turck) switch kit	\$214.50
	PS(R)xFx	72914-22	Housing w/4-pin DC (Efector) switch kit	\$214.50
	PS(R)xHx	72914-34	Housing w/4-pin DC (P+F) switch kit	\$301.60
	PS(R)xJx	72914-35	Housing w/4-pin DC (Turck) switch kit	\$214.50
2xF or 2xK	PS(R)xNx	72914-05	Housing w/o switch kit	\$102.50
	PS(R)xA1	72914-08	Housing w/5-pin AC/DC (Turck) switch kit	\$301.60
	PS(R)xDx	72914-06	Housing w/4-pin DC (P+F) switch kit	\$214.50
	PS(R)xEx	72914-10	Housing w/4-pin DC (Turck) switch kit	\$214.50
	PS(R)xFx	72914-23	Housing w/4-pin DC (Efector) switch kit	\$214.50
	PS(R)xHx	72914-36	Housing w/4-pin DC (P+F) switch kit	\$301.60
	PS(R)xJx	72914-37	Housing w/4-pin DC (Turck) switch kit	\$214.50
4	PS(R)xNx	72914-14	Housing w/o switch kit	\$128.90
	PS(R)xA1	72914-18	Housing w/5-pin AC/DC (Turck) switch kit	\$301.60
	PS(R)xDx	72914-15	Housing w/4-pin DC (P+F) switch kit	\$214.50
	PS(R)xEx	72914-20	Housing w/4-pin DC (Turck) switch kit	\$214.50
	PS(R)xFx	72914-24	Housing w/4-pin DC (Efector) switch kit	\$214.50
	PS(R)xHx	72914-38	Housing w/4-pin DC (P+F) switch kit	\$301.60
	PS(R)xJx	72914-39	Housing w/4-pin DC (Turck) switch kit	\$214.50
4xF	PS(R)xNx	72914-16	Housing w/o switch kit	\$128.90
	PS(R)xA1	72914-19	Housing w/5-pin AC/DC (Turck) switch kit	\$301.60
	PS(R)xDx	72914-17	Housing w/4-pin DC (P+F) switch kit	\$214.50
	PS(R)xEx	72914-21	Housing w/4-pin DC (Turck) switch kit	\$214.50
	PS(R)xFx	72914-25	Housing w/4-pin DC (Efector) switch kit	\$214.50
	PS(R)xHx	72914-40	Housing w/4-pin DC (P+F) switch kit	\$301.60
	PS(R)xJx	72914-41	Housing w/4-pin DC (Turck) switch kit	\$214.50
4xG	PS(R)xNx	72914-27	Housing w/o switch kit	\$128.90
	PS(R)xA1	72914-28	Housing w/5-pin AC/DC (Turck) switch kit	\$301.60
	PS(R)xDx	72914-29	Housing w/4-pin DC (P+F) switch kit	\$214.50
	PS(R)xEx	72914-30	Housing w/4-pin DC (Turck) switch kit	\$214.50
	PS(R)xFx	72914-31	Housing w/4-pin DC (Efector) switch kit	\$214.50
	PS(R)xHx	72914-42	Housing w/4-pin DC (P+F) switch kit	\$301.60
	PS(R)xJx	72914-43	Housing w/4-pin DC (Turck) switch kit	\$214.50

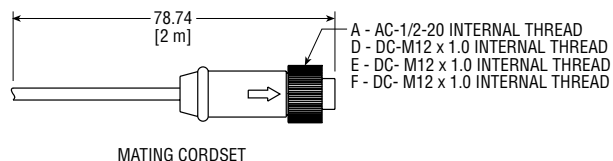
Kit includes: Housing and all pins and screws required for installation.

REPLACEMENT SWITCH KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

SWITCH OPTION	SWITCH TYPE	PHD SWITCH KIT NUMBER	PHD LIST PRICE	SWITCH PART NUMBER
A	5-PIN AC/DC-N.O.	72914-11	\$199.10	Ni 2-Q6.5-ADZ32-0.16-FSB 5.4X4/S304
D	4-PIN DC - N.O. - PNP	72914-12	\$115.00	NBN2-F581-160S6-E8-V1
E	4-PIN DC - N.O. - PNP	72914-13	\$115.00	Ni 2-Q6.5-0.16-BDS-2AP6X3-H1141/S34
F	4-PIN DC - N.O. - PNP	72914-26	\$115.00	IN 5375
H	4-PIN DC - N.O. - NPN	72914-32	\$199.10	NBN2-F581-160S6-E10-V1
J	4-PIN DC - N.O. - NPN	72914-33	\$115.00	Ni-2-Q6.5-AN6-0.16-FS 4.4X3/S304

MATCHING CORDSETS 2 METERS LONG

SWITCH OPTION	PHD PART NUMBER	PHD LIST PRICE	CORDSET PART NUMBER
A	73317-00-02	\$31.50	KB 5T-2
D	65440-001-02	\$14.20	V1-G-YE2M-PVC
E	78039-00-02	\$26.45	RK 4.4T-2
F	65440-001-02	\$14.20	V1-G-YE2M-PVC
H	65440-001-02	\$14.20	V1-G-YE2M-PVC
J	78039-00-02	\$26.45	RK 4.4T-2



SWITCH MOUNTING OPTIONS: CLAMP ACCESSORIES

FIELD SET-UP PROCEDURE:

- 1) Using air pressure, close clamp jaws with panel between tips.
- 2) Loosen but do not remove screw adjacent to letter "C" (close) on switch cover.
- 3) Slide screw in direction opposite to arrow (toward cylinder) until switch turns off.
- 4) Slide screw in direction of arrow (toward jaws) until switch turns on.
- 5) Align washer under head of screw to cover slot on switch cover before tightening.
- 6) Tighten screw to 44 in-lb [5.0 Nm]. Close switch is now set.
- 7) Using air pressure, open clamp jaws.
- 8) Loosen but do not remove screw adjacent to letter "O" (open) on switch cover.
- 9) Slide screw in direction opposite to arrow (toward jaws) until switch turns off.
- 10) Slide screw in direction of arrow (toward cylinder) until switch turns on.
- 11) Align washer under head of screw to cover slot on switch cover before tightening.
- 12) Tighten screw to 44 in-lb [5.0 Nm]. Open switch is now set.

TO TEST THE SETUP:

- 13) Using air pressure, close clamp jaws with panel between tips. The switch should turn on.
- 14) Using air pressure, open clamp jaws. The switch should turn on.

TIP OPTIONS: CLAMP ACCESSORIES

- TAxXX

- TBxxx

TIP OPTIONS - JAW A			
CODE	TIP	COLOR	USE WITH OPTION:
TA001*	- 30° single diamond	black	TB001
TA002*	- 30° single diamond	silver	TB002
TA003**	- 30° single diamond	black	TB003
TA004**	- 30° single diamond	silver	TB004
TA005	- Single socket	black	See Tx005-010
TA006	- Single socket	silver	"
TA007	- Single socket	gold	"
TA008	- Single ball	black	"
TA009	- Single ball	silver	"
TA010	- Single ball	gold	"
TA017	- Tip extension (duckbill)	—	TB017
TA018	- Tip extension (wing tip)	—	TB018
TA019	- Sharp cone point	black	See Tx019-021
TA020	- Sharp cone point	silver	"
TA021	- Sharp cone point	gold	"
TA022	- Double cone point	black	See Tx022-027
TA023	- Double cone point	silver	"
TA024	- Double cone point	gold	"
TA025	- Double diamond point	black	"
TA026	- Double diamond point	silver	"
TA027	- Double diamond point	gold	"
TA030	- Short offset	—	TB031-TB033
TA031	- Long offset	black	TB030
TA032	- Long offset	silver	TB030
TA033	- Long offset	gold	TB030
TA034*	- 30° Double diamond	black	TB034
TA035*	- 30° Double diamond	silver	TB035
TA036*	- 30° Double diamond	gold	TB036
TA037**	- 30° Double diamond	black	TB037
TA038**	- 30° Double diamond	silver	TB038
TA039**	- 30° Double diamond	gold	TB039
TA040	- Hard urethane	red	TB040
TA041	- Hard urethane	red	TB041
TA042	- Double no scratch	black	See Tx042-047
TA043	- Double no scratch	silver	"
TA044	- Double no scratch	gold	"
TA045	- Double no scratch	black	"
TA046	- Double no scratch	silver	"
TA047	- Double no scratch	gold	"
TA052	- Double urethane	red	TB055
TA055	- Double urethane	red	TB052
TA060	- Drawbead	black	TB030
TA061	- Drawbead	silver	TB030
TA063	- Sharp double cone point	black	See Tx063-065
TA064	- Sharp double cone point	silver	"
TA065	- Sharp double cone point	gold	"
TA066	- Hard urethane	blue	See Tx066-069
TA067	- Hard urethane	blue	"
TA068	- Hard urethane	blue	"
TA069	- Hard urethane	yellow	"
TA071	- 15° single diamond	black	See Tx071-082
TA072	- 15° single diamond	silver	"
TA073	- 15° single diamond	gold	"
TA074	- 15° single diamond	black	"
TA075	- 15° single diamond	silver	"
TA076	- 15° single diamond	gold	"
TA077	- 15° double diamond	black	"
TA078	- 15° double diamond	silver	"
TA079	- 15° double diamond	gold	"
TA080	- 15° double diamond	black	"
TA081	- 15° double diamond	silver	"
TA082	- 15° double diamond	gold	"
TA083	- Drawbead	black	See Tx083-084
TA084	- Drawbead	black	"

TIP OPTIONS - JAW B			
CODE	TIP	COLOR	USE WITH OPTION:
TB001*	- 30° single diamond	black	TA001
TB002*	- 30° single diamond	silver	TA002
TB003**	- 30° single diamond	black	TA003
TB004**	- 30° single diamond	silver	TA004
TB005	- Single socket	black	See Tx005-010
TB006	- Single socket	silver	"
TB007	- Single socket	gold	"
TB008	- Single ball	black	"
TB009	- Single ball	silver	"
TB010	- Single ball	gold	"
TB017	- Tip extension (duckbill)	—	TA017
TB018	- Tip extension (wing tip)	—	TA018
TB019	- Sharp cone point	black	See Tx019-021
TB020	- Sharp cone point	silver	"
TB021	- Sharp cone point	gold	"
TB022	- Double cone point	black	See Tx022-027
TB023	- Double cone point	silver	"
TB024	- Double cone point	gold	"
TB025	- Double diamond point	black	"
TB026	- Double diamond point	silver	"
TB027	- Double diamond point	gold	"
TB030	- Short offset	—	TA031-TA033
TB031	- Long offset	black	TA030
TB032	- Long offset	silver	TA030
TB033	- Long offset	gold	TA030
TB034*	- 30° Double diamond	black	TA034
TB035*	- 30° Double diamond	silver	TA035
TB036*	- 30° Double diamond	gold	TA036
TB037**	- 30° Double diamond	black	TA037
TB038**	- 30° Double diamond	silver	TA038
TB039**	- 30° Double diamond	gold	TA039
TB040	- Hard urethane	red	TA040
TB041	- Hard urethane	red	TA041
TB042	- Double no scratch	black	See Tx042-047
TB043	- Double no scratch	silver	"
TB044	- Double no scratch	gold	"
TB045	- Double no scratch	black	"
TB046	- Double no scratch	silver	"
TB047	- Double no scratch	gold	"
TB052	- Double urethane	red	TA055
TB055	- Double urethane	red	TA052
TB060	- Drawbead	black	TA030
TB061	- Drawbead	silver	TA030
TB063	- Sharp double cone point	black	See Tx063-065
TB064	- Sharp double cone point	silver	"
TB065	- Sharp double cone point	gold	"
TB066	- Hard urethane	blue	See Tx066-069
TB067	- Hard urethane	blue	"
TB068	- Hard urethane	blue	"
TB069	- Hard urethane	yellow	"
TB071	- 15° single diamond	black	See Tx071-082
TB072	- 15° single diamond	silver	"
TB073	- 15° single diamond	gold	"
TB074	- 15° single diamond	black	"
TB075	- 15° single diamond	silver	"
TB076	- 15° single diamond	gold	"
TB077	- 15° double diamond	black	"
TB078	- 15° double diamond	silver	"
TB079	- 15° double diamond	gold	"
TB080	- 15° double diamond	black	"
TB081	- 15° double diamond	silver	"
TB082	- 15° double diamond	gold	"
TB083	- Drawbead	black	See Tx083-084
TB084	- Drawbead	black	"

* upward mounting

** downward mounting

* upward mounting

** downward mounting

TIP OPTIONS: CLAMP ACCESSORIES

Tx001 to Tx004 30° SINGLE DIAMOND TIP (A ON JAW A, B ON JAW B)

This option provides single diamond tips with the gripping surface on a 30° angle. The tips can be used to grip angled surfaces while keeping the clamp parallel, decreasing the space required by the clamp. These tips are a set and must be used as a pair.

Tx001 to Tx004 accessories are only available for GRM2xK, GRM2xR, and GRM2xS clamps. Tx003 to Tx004 (downward mounting) are not available for GRM2xF clamps. For other GRM2xF applications, consult PHD.

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB001, 002, 003, or 004	\$48.10

Price adder is for one 30° tip mounted to jaw.

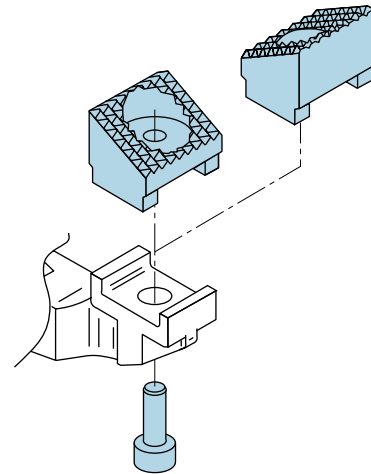
Example Ordering Data:

GRM [2] **TS-2-45** [blank] -45 [blank] -LAA -TA001 -TB001

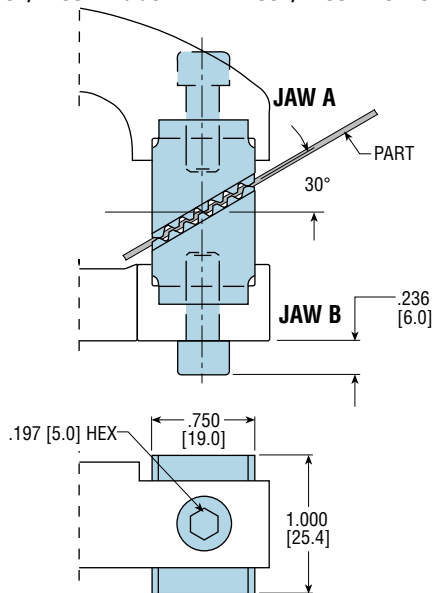
SHADED CODES are required for this option.

All unshaded model codes are example only.

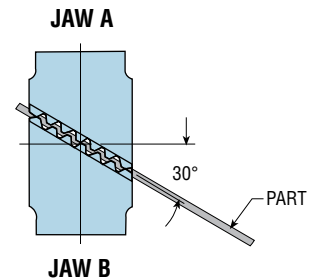
For compatibility with other units, consult PHD.



UPWARD MOUNTING
TA001/TB001 = black TA002/TB002 = silver



DOWNWARD MOUNTING
TA003/TB003 = black TA004/TB004 = silver



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

FOR K, R, AND S JAW STYLES ONLY

TIP OPTION	MATERIAL THICKNESS (mm)	TIP COLOR	MOUNTING ORIENTATION
TA001/TB001	0 - 1.5	black	upward
TA002/TB002	1.51 - 3.0	silver	upward
TA003/TB003	0 - 1.5	black	downward
TA004/TB004	1.51 - 3.0	silver	downward

Assembling the tips rotated 180° turns upward mounting into downward mounting.

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	TIP COLOR	LIST PRICE
2	65106-01	black	\$48.10
2	65106-02	silver	\$48.10

Kit includes:
1 30° Single Diamond Tip
1 Mounting Screw

Pricing subject to change. Consult local distributor for current pricing.

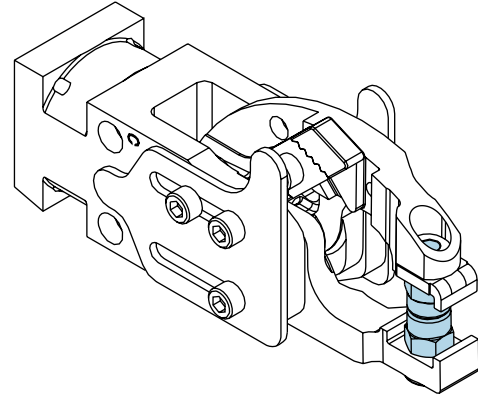
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TIP OPTIONS: CLAMP ACCESSORIES

Tx005 to **Tx010** NO SCRATCH TIPS (A ON JAW A, B ON JAW B)

No scratch tips reduce the “fines” or flakes generated when transferring galvanized panels. The tips have smooth curved surfaces that grip the panels, but don’t scratch the plating, therefore eliminating most “fines” that cause dirty dies and marked panels.

These tips are a set. The ball tip needs to be matched to a socket tip. Both the ball and socket need to be specified based on the material thickness.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB005, TA or TB006	\$16.30
		TA or TB007	\$19.60
		TA or TB008, TA or TB009	\$23.10
		TA or TB010	\$30.05
GRM4	2 [6]	TA or TB005	\$16.65
		TA or TB006, TA or TB007	\$16.30
		TA or TB008, TA or TB009, TA or TB010	\$16.30

A tip must be specified for jaw A and jaw B. Price adder is per tip.

Example Ordering Data:

GRM2TS-2-45 **blank** **-45** **blank** **-LAA** **-TA008** **-TB005**

SHADED CODES are required for this option.

All unshaded model codes are example only.

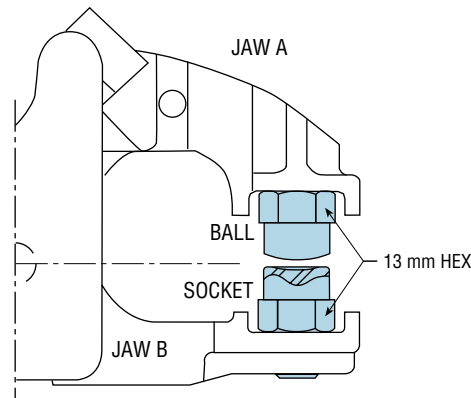
For compatibility with other units, consult PHD.

RECOMMENDED TIP COMBINATION

STANDARD JAW STYLE				MATERIAL THICKNESS (mm)		
CLAMP SIZE	JAW	TIP TYPE	TIP CODE	0 to 1.50	1.51 to 3.00	3.01 to 4.00
2 or 4	A	ball	TA	008	009	010
	B	socket	TB	005	006	007

FLANGE JAW STYLE				MATERIAL THICKNESS (mm)					
CLAMP SIZE	JAW	TIP TYPE	TIP CODE	0 to 0.85	.86 to 1.2	1.21 to 1.52	1.53 to 1.94	1.95 to 2.29	2.30 to 2.6
2xF	A	ball	TA	008	009	010	009	010	010
	B	socket	TB	005	005	005	006	006	007

SHORT JAW STYLE				MATERIAL THICKNESS (mm)	
CLAMP SIZE	JAW	TIP TYPE	TIP CODE	0 to 1.50	1.51 to 3.00
2xR	A	ball	TA	008	009
	B	socket	TB	005	006



CLAMP SIZE	CODE TA OR TB KIT NUMBERS AND PRICES					
	005	006	007	008	009	010
2	65100-13	65100-14	65100-15	65100-16	65100-17	65100-18
	\$16.30	\$16.30	\$19.60	\$23.10	\$23.10	\$30.05
4	65100-19	65100-20	65100-21	65100-22	65100-23	65100-24
	\$16.65	\$16.30	\$16.30	\$16.30	\$16.30	\$16.30

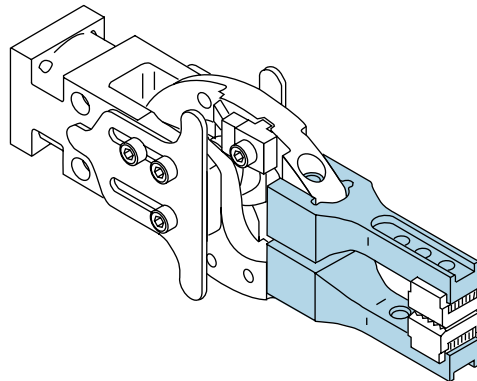
Kit includes:
1 Tip

TIP OPTIONS: CLAMP ACCESSORIES

Tx017 DUCKBILL TIP EXTENSION (A ON JAW A, B ON JAW B)

The Duckbill provides a tip mounting beam that reaches forward to clamp parts in small confined areas. The Duckbill itself mounts to standard jaws, providing a long beam with multiple tip mounting threads in front of the jaw.

Standard tips can be attached to these threads. Tips should be specified normally (black, silver, and gold) for the material thickness on that jaw style. Tips will be mounted on outboard threads as shown.



AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$46.55

Price adder is for 1 Duckbill mounted to the jaw.
A Duckbill must be specified on jaw A and jaw B.

Example Ordering Data:

GRM2T **S** -2-45 **SDB** -45 **SDB** -LAA **-TA017** **-TB017**

SHADED CODES are required for this option.

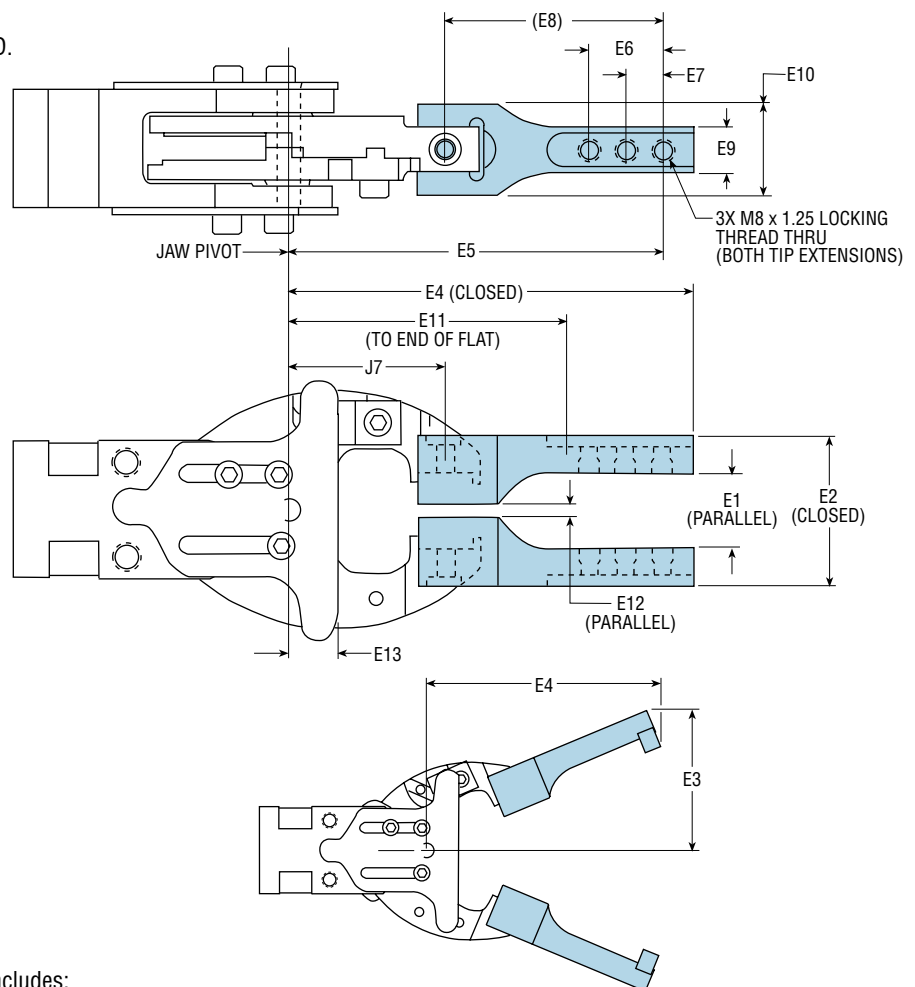
BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

LETTER DIM.	SIZE 2	
	in	mm
J7	2.146	54.5
E1	1.044	26.5
E2 (CLOSED)	2.074	52.7
E3 (OPEN 22°)	3.088	78.4
E3 (OPEN 45°)	4.669	118.6
E3 (OPEN 75°)	5.585	141.9
E4 (CLOSED)	5.566	141.4
E4 (OPEN 22°)	5.079	129.0
E4 (OPEN 45°)	3.878	98.5
E4 (OPEN 75°)	1.882	47.8
E5	5.146	130.7
E6	1.000	25.4
E7	.500	12.7
E8	3.000	76.2
E9*	.628	16.0
E10	1.250	31.8
E11	3.716	94.4
E12	.174	4.4
E13	.65	16.5

*TOLERANCE FOR E9 = ± .003 [± .076]



REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	LIST PRICE
2	65133-03	\$46.55

Kit includes:
1 Duckbill
1 Mounting Screw

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

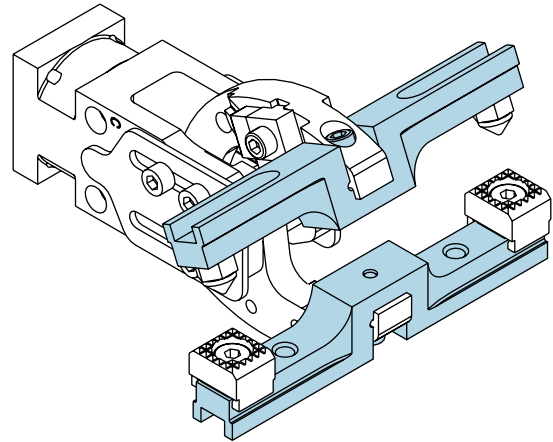
Pricing subject to change. Consult local distributor for current pricing.

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TIP OPTIONS: CLAMP ACCESSORIES

Tx018 WING TIP EXTENSION (A ON JAW A, B ON JAW B)

The wing tip provides a tip mounting beam that reaches sideways, providing a long beam with multiple tip mounting threads on both sides of the clamp. Spreading the tips out, causing less deflection in thin panels, standard tips can be attached at these threads. Tips should be specified normally (black, silver, or gold) for the material thickness on that jaw style. Tips should be ordered separately as kits.



AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$51.70
GRM4	2 [6]	\$61.20

Price adder is for one wing tip mounted to the jaw.
A wing tip must be specified on jaw A and jaw B.

Example Ordering Data:

GRM2T **S** -2-45 **blank** -45 **blank** -LAA **-TA018** **-TB018**

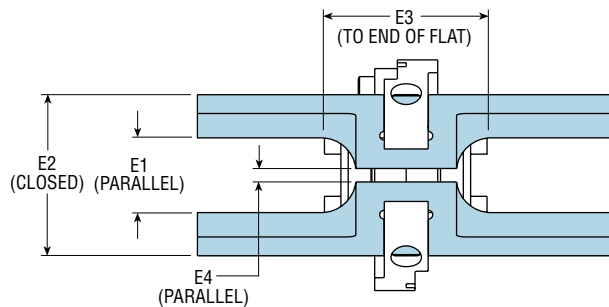
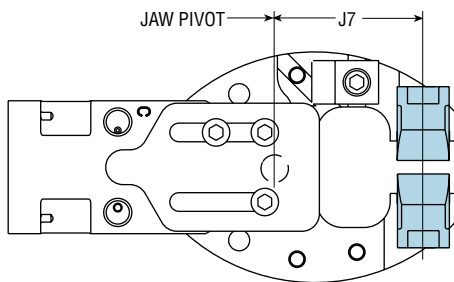
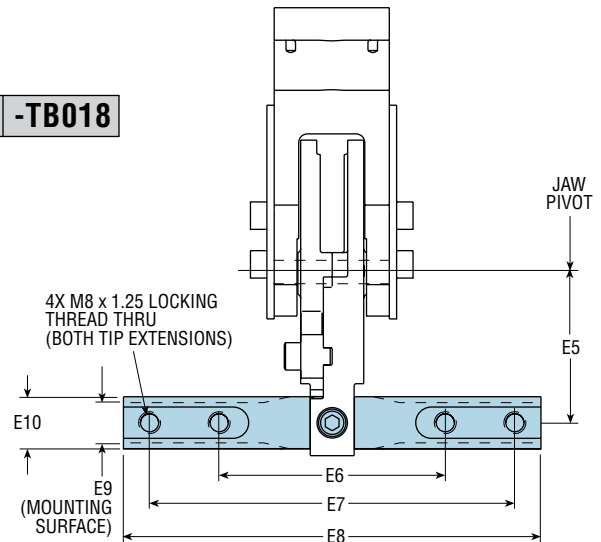
SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in
- 3) *TOLERANCE FOR E9 = ± .003 [± .076]



CLAMP SIZE	LETTER DIMENSION																					
	J7		E1		E2 (closed)		E3		E4		E5		E6		E7		E8		E9*		E10	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2	2.146	54.5	1.074	27.3	2.314	58.8	2.440	62.0	.194	4.9	2.146	54.5	3.250	82.6	5.250	133.4	6.000	152.4	.628	16.0	.746	18.9
4	2.815	71.5	1.584	40.2	2.684	68.2	2.680	68.1	.184	4.7	2.815	71.5	3.500	88.9	5.500	139.7	6.500	165.1	.783	19.9	1.125	28.6

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

If ordering as a kit, modification to impact plates may be required

CLAMP SIZE	KIT NUMBER	LIST PRICE
2	65134-03	\$51.70
4	65134-04	\$61.20

Kit includes:
1 Wing Tip
1 Mounting Screw
1 Impact Plate modification print

IMPACT PLATE REPLACEMENT KIT THAT REQUIRES NO MODIFICATION

CLAMP SIZE	KIT NUMBER	LIST PRICE
2	63967-04	\$9.50
4	64638-04	\$13.40

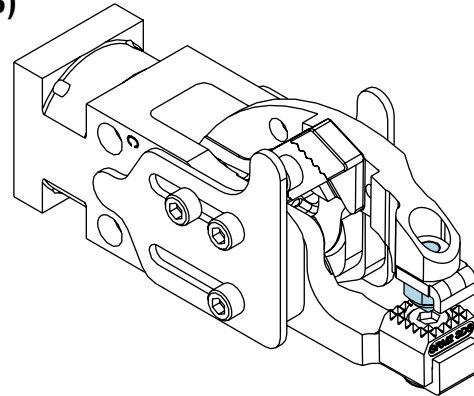
Kit includes:
2 Impact Plates
6 Screws

TIP OPTIONS: CLAMP ACCESSORIES

Tx019 to **Tx021** SHARP CONE POINT TIP (A ON JAW A, B ON JAW B)

Sharp cone points have a tip that is very sharp (less than .015 in [0.4 mm]). They should be used with a single diamond tip (SDB, SDS, SDG, or SDR) mounted opposite them or a single chisel (C).

Tips should be specified (black, silver, gold, or red) for the material thickness and jaw style. Sharp cones can be used on jaw A or jaw B.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB019, 020	\$9.50
		TA or TB021	\$15.20
GRM4	2 [6]	TA or TB019, 020, or 021	\$23.35

Price adder is for one single sharp cone point tip mounted to a jaw.

Example Ordering Data:

GRM2TS-2-45 **blank** **-45** **SDB** **-LAA** **-TA019**

SHADED CODES are required for this option.

BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

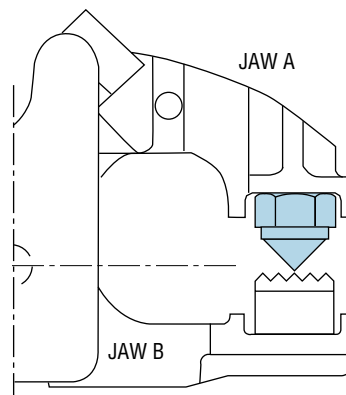
For simplicity, these tables show the sharp cone on jaw A.

RECOMMENDED TIP COMBINATION

STANDARD JAW STYLE			MATERIAL THICKNESS (mm)			
CLAMP SIZE	JAW	TIP CODE	0 to 1.50	1.51 to 3.00	3.01 to 4.00	4.01 to 4.38
2 or 4	A	TA	019	020	021	021
	B	SDx	SDB	SDS	SDG	SDR

FLANGE JAW STYLE			MATERIAL THICKNESS (mm)							
CLAMP SIZE	JAW	TIP CODE	0 to 0.85	.86 to 1.20	1.21 to 1.52	1.53 to 1.94	1.95 to 2.29	2.30 to 2.60	2.61 to 3.00	
2xF	A	TA	019	020	021	020	021	021	021	
	B	SDx	SDB	SDB	SDB	SDS	SDS	SDG	SDR	

SHORT JAW STYLE			MATERIAL THICKNESS (mm)		
CLAMP SIZE	JAW	TIP CODE	0 to 1.50	1.51 to 3.00	3.01 to 3.38
2xR	A	TA	019	020	021
	B	SDx	SDB	SDS	SDR



REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	CODE TA OR TB KIT NOS. AND PRICES		
	019	020	021
2	65131-01	65131-02	65131-03
	\$9.50	\$9.50	\$15.20
4	65131-04	65131-05	65131-06
	\$23.35	\$23.35	\$23.35

Kit includes:
1 Tip

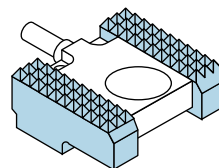
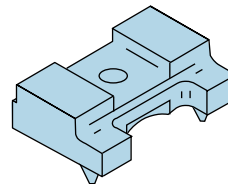
Pricing subject to change. Consult local distributor for current pricing.

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TIP OPTIONS: CLAMP ACCESSORIES

Tx022 to Tx027 DOUBLE CONE AND DIAMOND TIP FOR MOUNTING FLAT PROXIMITY SWITCH (A ON JAW A, B ON JAW B)

This option provides panel sensing with a diamond tip that mounts and protects a proximity switch (S01) in a very small tip package. A special matching cone point tip (Tx022 - 024) is required. Both diamond and cone point tips mount on standard and flange style jaws, creating a very flexible sensing package. Both the cone point and diamond tip need to be specified based on jaw style and material thickness. See recommended tip combination on the next page.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB022	\$47.20
		TA or TB023	\$47.20
		TA or TB024	\$56.45
		TA or TB025	\$62.65
		TA or TB026	\$54.50
		TA or TB027	\$65.80

A tip must be specified for jaw A and jaw B. Price adder is per tip.

Example Ordering Data:

GRM2TS-2-45 blank -45 blank -LAA -S01 -TA022 -TB025

SHADED CODES are required for this option.

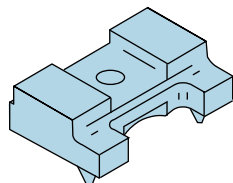
BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

DOUBLE CONE

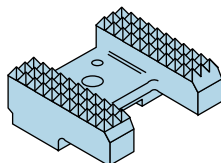
Tx022 - 024



Kit includes:
1 Tip
1 Mounting Screw

DOUBLE DIAMOND

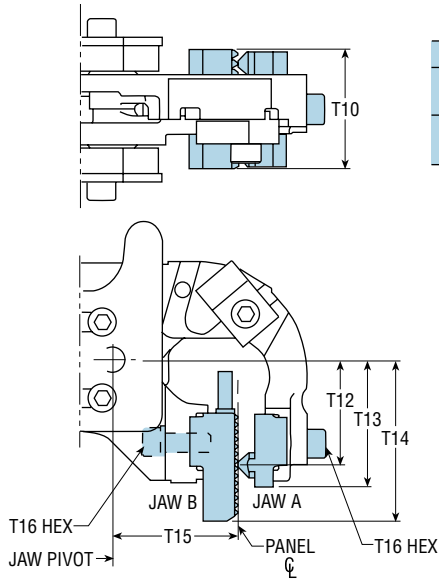
Tx025 - Tx027



Kit includes:
1 Tip
1 Mounting Screw and Washer

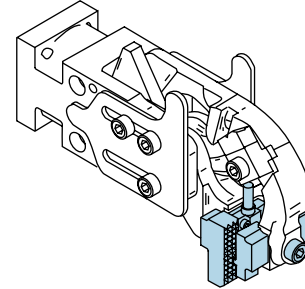
OPTION	TIP COLOR	KIT NO.	LIST PRICE
Tx022	black	65136-04	\$47.20
Tx023	silver	65136-05	\$47.20
Tx024	gold	65136-06	\$56.45
Tx025	black	65136-07	\$62.65
Tx026	silver	65136-08	\$54.50
Tx027	gold	65136-09	\$65.80

TIP OPTIONS: CLAMP ACCESSORIES



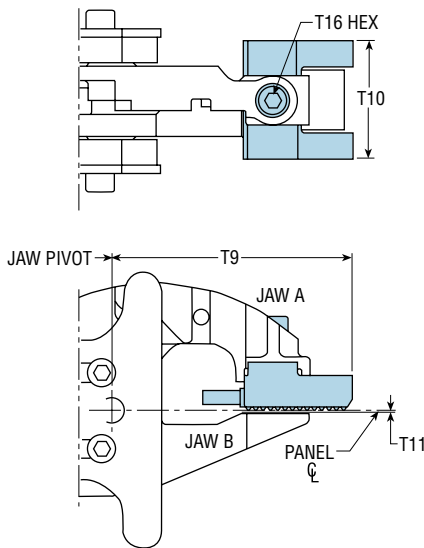
RECOMMENDED TIP COMBINATION

FLANGE JAW STYLE			MATERIAL THICKNESS (mm)					
CLAMP SIZE	JAW	TIP	0 to 0.85	.86 to 1.2	1.21 to 1.52	1.53 to 1.94	1.95 to 2.29	2.30 to 2.6
		TYPE	CODE					
2	A	cone	TA	022	023	024	023	024
	B	diamond	TB	025	025	025	026	026



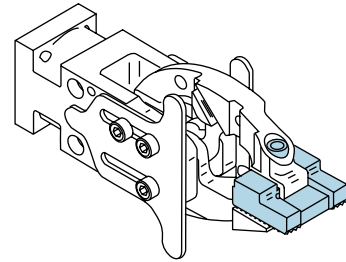
GRM2TF-2-85-00-S01-TA022-TB025

LETTER DIM.	2xX	
	in	mm
T5	.295	7.5
T7	2.462	62.5
T8	2.752	69.9
T9	3.188	81.0
T10	1.530	38.9
T11	.025	.6
T12	1.378	35.0
T13	1.669	42.4
T14	2.106	53.5
T15	1.646	41.8
T16	.197	5.0



RECOMMENDED TIP COMBINATION

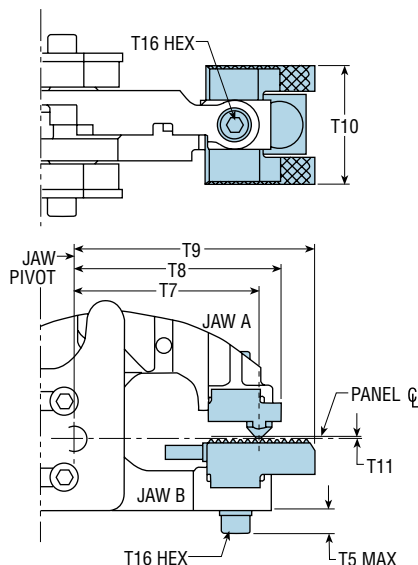
CHISEL JAW STYLE			MATERIAL THICKNESS (mm)		
CLAMP SIZE	JAW	TIP	0 to 1.50	1.51 to 3.00	3.01 to 4.00
		TYPE	CODE		
2	A	diamond	TA	025	026



GRM2TD-2-75-00-JB01-S01-TA025

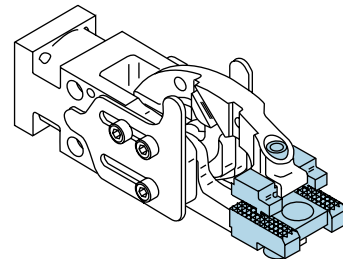
NOTE: JB01 REQUIRED FOR CHISEL JAW

LETTER DIM.	2xR	
	in	mm
T5	.295	7.5
T7	1.772	45.0
T8	2.062	52.4
T9	2.498	63.4
T10	1.530	38.9
T11	.025	.6
T16	.197	5.0



RECOMMENDED TIP COMBINATION

STANDARD & SHORT JAW STYLES			MATERIAL THICKNESS (mm)		
CLAMP SIZE	JAW	TIP	0 to 1.50	1.51 to 3.00	3.01 to 4.00
		TYPE	CODE		
2	A	cone	TA	022	023
	B	diamond	TB	025	026
2xR	A	cone	TA	022	023
	B	diamond	TB	025	026



GRM2TS-2-75-00-S01-TA022-TB025
or **GRM2TS-2-75-75-S01-TA022-TB025**

Pricing subject to change. Consult local distributor for current pricing.

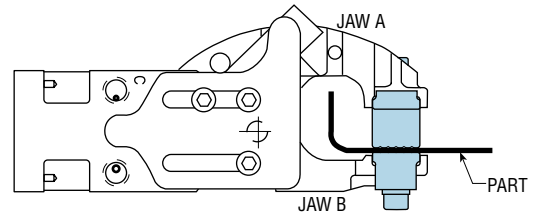
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TIP OPTIONS: CLAMP ACCESSORIES

Tx030 to Tx033 SHORT & LONG OFFSET TIP (A ON JAW A, B ON JAW B)

Offset tips are double diamonds with the gripping surface shifted off the centerline providing more clearance to clamp panels with flanges up to 1.125 in [28.5 mm] long. These tips are a set and must be used as a pair. The short tip, -030 is used for all material thicknesses. The long tip, -031, -032, or 033 is specified based on the material thickness.

Tx030 to Tx033 accessories are only available for GRM2xK and GRM2xS. Tx030 to Tx032 are only available for GRM2xR clamps.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA030 or TB030	\$52.50 each
		TA031 or TB031	\$51.15 each
		TA032 or TB032	\$51.15 each
		TA033 or TB033	\$56.30 each

A tip must be specified for jaw A and jaw B. Price adder is per tip.

Example Ordering Data:

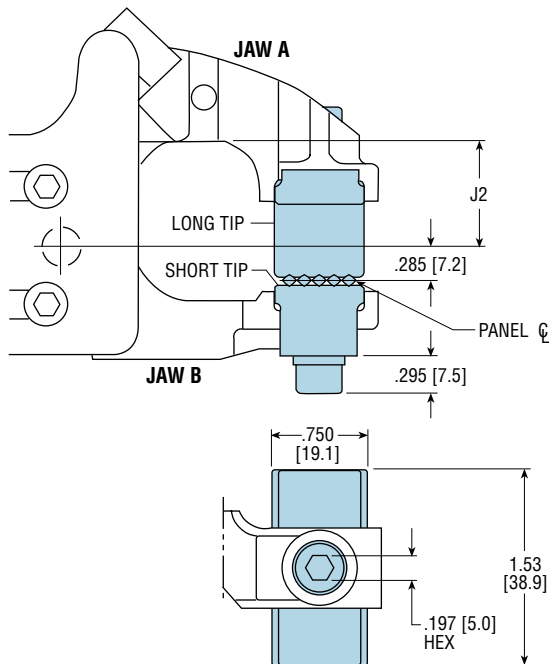
GRM2T **S** **-2-45** **blank** **-45** **blank** **-LAA** **-TA031** **-TB030**

SHADED CODES are required for this option.

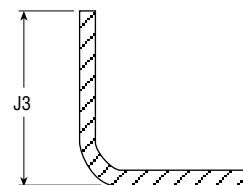
BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



CUSTOMER PART DETAIL



CLAMP SIZE	LETTER DIMENSION			
	J2		J3	
	in	mm	in	mm
2	1.151	29.2	1.125	28.6
2xR	.855	21.7	.829	21.1

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

CLAMP SIZE	KIT		TYPE	CODE	MATERIAL THICKNESS (mm)	TIP COLOR
	NUMBER	PRICE				
2	65405-03	\$103.65	long	TA or TB031	0 - 1.5	black
	65405-04	\$103.65	long	TA or TB032	1.51 - 3.0	silver
	65405-05	\$109.35	long	TA or TB033	3.01 - 4.0	gold
2xR	65405-03	\$103.65	long	TA or TB031	0 - 1.5	black
	65405-04	\$103.65	long	TA or TB032	1.51 - 3.0	silver

Kit includes:

- 1 Short Tip -Tx030
- 1 Long Tip specified -Tx031 through Tx033
- 2 Mounting Screws
- 1 Washer

TIP OPTIONS: CLAMP ACCESSORIES

Tx034 to Tx039 30° DOUBLE DIAMOND TIP (A ON JAW A, B ON JAW B)

This option provides double diamond tips with the gripping surface on a 30° angle. The tips can be used to grip angled surfaces while keeping the clamp parallel, decreasing the space required by the clamp. These tips are a set and must be used as a pair.

Tx034 to Tx039 accessories are only available for GRM2xK and GRM2xS clamps. Tx034, Tx035, Tx037, and Tx038 are only available for GRM2xR clamps. Tx037 to Tx039 (downward mounting) are not available for GRM2xF clamps. For other GRM2xF applications, consult PHD.

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB034, 035	\$53.60
		TA or TB036, 039	\$56.85
		TA or TB037, 038	\$53.60

Price adder is for one 30° tip mounted to the jaw.

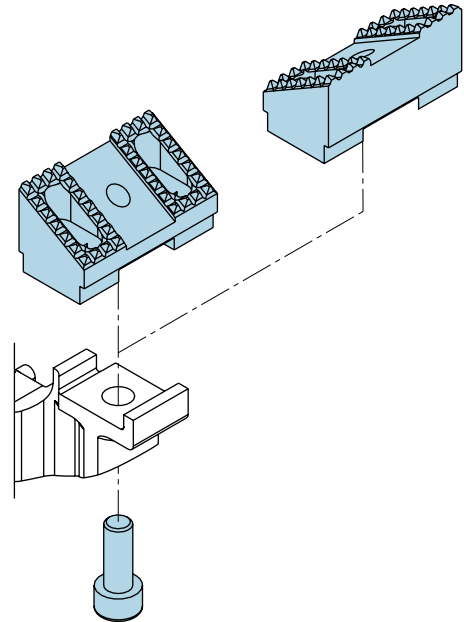
Example Ordering Data:

GRM **2** TS-2-45 **blank** -45 **blank** -LAA **-TA034** **-TB034**

SHADED CODES are required for this option.

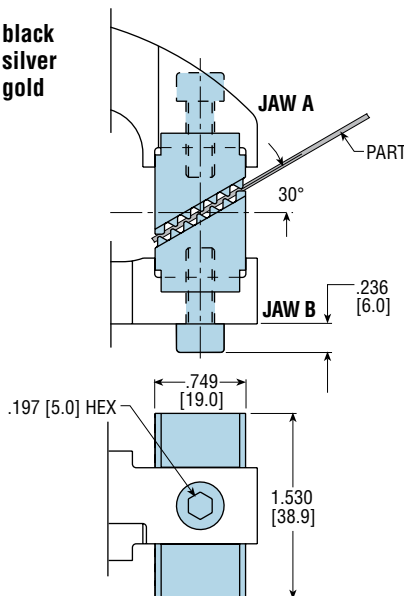
All unshaded model codes are example only.

For compatibility with other units, consult PHD.



UPWARD MOUNTING

TA034/TB034 = black
TA035/TB035 = silver
TA036/TB036 = gold

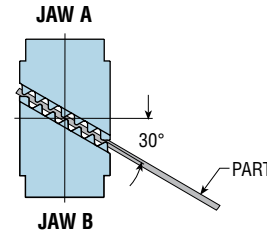


NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

DOWNWARD MOUNTING

TA037/TB037 = black
TA038/TB038 = silver
TA039/TB039 = gold



FOR K AND S JAW STYLES

TIP OPTION	MATERIAL THICKNESS (mm)	TIP COLOR	MOUNTING ORIENTATION
TA034/TB034	0 - 1.5	black	upward
TA035/TB035	1.51 - 3.0	silver	upward
TA036/TB036	3.01 - 4.0	gold	upward
TA037/TB037	0 - 1.5	black	downward
TA038/TB038	1.51 - 3.0	silver	downward
TA039/TB039	3.01 - 4.0	gold	downward

FOR R JAW STYLE

TIP OPTION	MATERIAL THICKNESS (mm)	TIP COLOR	MOUNTING ORIENTATION
TA034/TB034	0 - 1.5	black	upward
TA035/TB035	1.51 - 3.0	silver	upward
TA037/TB037	0 - 1.5	black	downward
TA038/TB038	1.51 - 3.0	silver	downward

Assembling the tips rotated 180° turns upward mounting into downward mounting.

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	KIT NUMBER	TIP COLOR	LIST PRICE
2	65149-03	black	\$53.60
2	65149-04	silver	\$53.60
2	65149-05	gold	\$56.85

Kit includes:
1 30° Double Diamond Tip
1 Mounting Screw

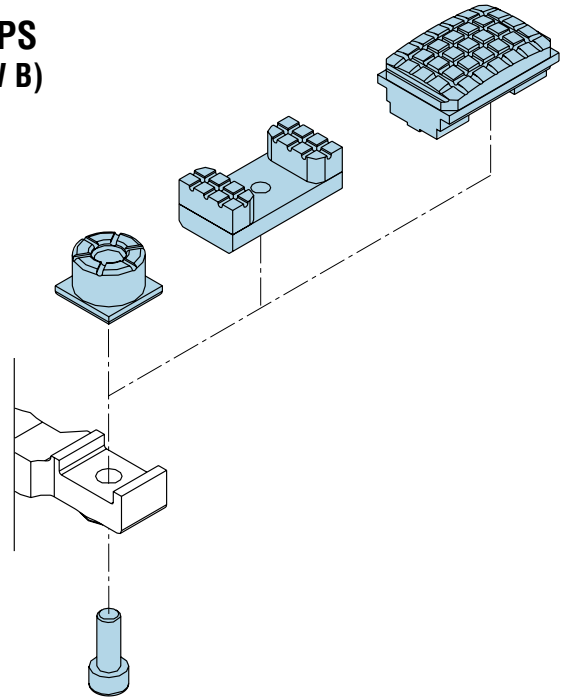
Pricing subject to change. Consult local distributor for current pricing.

TIP OPTIONS: CLAMP ACCESSORIES

Tx040 to **Tx041**
Tx066 to **Tx069**

HARD URETHANE TIPS (A ON JAW A, B ON JAW B)

This option provides harder urethane tips. They are made from 93 Durometer Shore A colored red and 85 Durometer Shore A colored blue or yellow for easy identification. These tips provide greater resistance to panel slippage and more resistance to wear than our standard 75 Durometer black tips (DUB or SUB). All dimensions and mounting hardware are identical to the standard urethane tips. These tips accommodate 0 to 3.0 mm material thickness on all jaw styles, except on flange jaws. See material thickness chart.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA040 or TB040	\$17.90
		TA066 or TB066	\$28.10
GRM4	2 [6]	TA040 or TB040	\$16.25
		TA041 or TB041	\$18.35
GRM2	2 [6]	TA067 or TB067	\$20.85
		TA041 or TB041	\$21.00
GRM4	2 [6]	TA068 or TB068	\$38.45
		TA069 or TB069	\$38.45

A tip must be specified for jaw A and jaw B. Price adder is per tip.

Example Ordering Data:

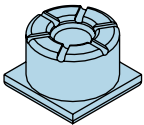
GRM2TS-2-45 **blank** -45 **blank** -LAA **-TA041** **-TB041**

SHADED CODES are required for this option.

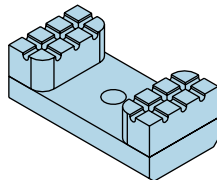
All unshaded model codes are example only.

For compatibility with other units, consult PHD.

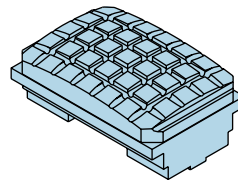
**SINGLE URETHANE PAD
(HARD)**
Tx040 (RED)
Tx066 (BLUE)



**DOUBLE URETHANE PAD
(HARD)**
Tx041 (RED)
Tx067 (BLUE)



**ROUNDED URETHANE PAD
(HARD)**
Tx068 (BLUE)
Tx069 (YELLOW)



KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

SIZE	OPTION	STYLE	TIP COLOR	DUROMETER	KIT NO.	LIST PRICE
2	Tx040	single	red	93 Shore A	65163-03	\$17.90
4	Tx040	single	red	93 Shore A	65163-05	\$16.25
2	Tx041	double	red	93 Shore A	65163-04	\$18.35
4	Tx041	double	red	93 Shore A	65163-06	\$21.00
2	Tx066	single	blue	85 Shore A	65163-07	\$28.10
2	Tx067	double	blue	85 Shore A	65163-08	\$20.85
2	Tx068	rounded	blue	85 Shore A	65174-05	\$38.45
2	Tx069	rounded	yellow	85 Shore A	65174-08	\$38.45

Kit includes:
 1 Hard Urethane Tip
 1 Mounting Screw

TIP OPTIONS: CLAMP ACCESSORIES

RECOMMENDED TIP COMBINATION

ACCESSORY CODE	MATERIAL THICKNESS (mm)				
	GRM2xS	GRMxC	GRMxD	GRMxF	GRMxR
Tx040, Tx041, Tx066, Tx067, Tx068	0 - 3.0	0 - 3.0	0 - 3.0	0 - 2.0	0 - 2.25
Tx069	0 - 3.0	0 - 3.0	0 - 3.0	0 - 2.0	—

RECOMMENDED TIP COMBINATION WHEN USED WITH PANEL PRESENT OR DOUBLE SHEET OPTIONS

K AND S JAW STYLES				MATERIAL THICKNESS (mm)	
CLAMP SIZE	JAW	TIP TYPE	TIP CODE	.70 to	1.51 to
				1.50	3.00
2	A	rounded	TA	069	068
	B	rounded	TB	069	068

R JAW STYLE				MATERIAL THICKNESS (mm)	
CLAMP SIZE	JAW	TIP TYPE	TIP CODE	.70 to	
				1.50	
2	A	rounded	TA	068	
	B	rounded	TB	068	

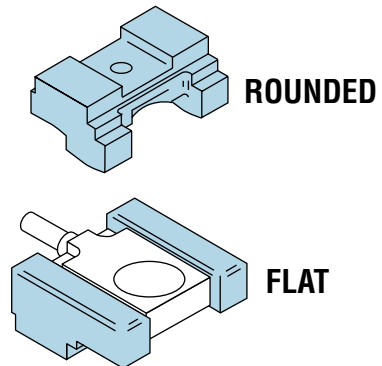
F JAW STYLE				MATERIAL THICKNESS (mm)		
CLAMP SIZE	JAW	TIP TYPE	TIP CODE	.70 to	1.21 to	1.53 to
				1.20	1.52	1.90
2	A	rounded	TA	069	068	068
	B	rounded	TB	069	069	068

TIP OPTIONS: CLAMP ACCESSORIES

Tx042 to **Tx047** **DOUBLE NO SCRATCH TIPS FOR MOUNTING FLAT PROXIMITY SWITCH (A ON JAW A, B ON JAW B)**

No scratch double tips reduce the “fines” or flakes generated when transferring galvanized panels. The tips have smooth curved surfaces that grip the panels but don’t scratch the plating and therefore eliminate most fines that cause dirty dies and marked panels.

They allow panel sensing by providing a protected mounting location for the (S01) proximity switch. Both round and flat tips mount on standard and flange style jaws, creating a very flexible sensing package. These tips are a set. The round tip needs to be matched to a flat tip. Both the round and flat tip need to be specified based on jaw style and material thickness. See recommended tip combinations on the next page.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
		TA or TB042	\$44.25
		TA or TB043	\$46.50
GRM2	2 [6]	TA or TB044	\$51.15
		TA or TB045	\$62.55
		TA or TB046	\$56.85
		TA or TB047	\$81.45

A tip must be specified for jaw A and jaw B. Price adder is per tip.

Example Ordering Data:

GRM2TS-2-45 **blank** -45 **blank** -LAA **-S01** **-TA042** **-TB045**

SHADED CODES are required for this option.

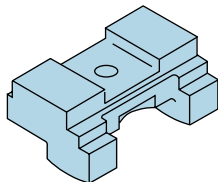
BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

DOUBLE NO SCRATCH (ROUNDED)

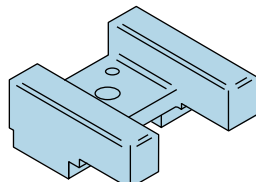
Tx042 - 044



Kit includes:
1 Tip
1 Mounting Screw

DOUBLE NO SCRATCH (FLAT)

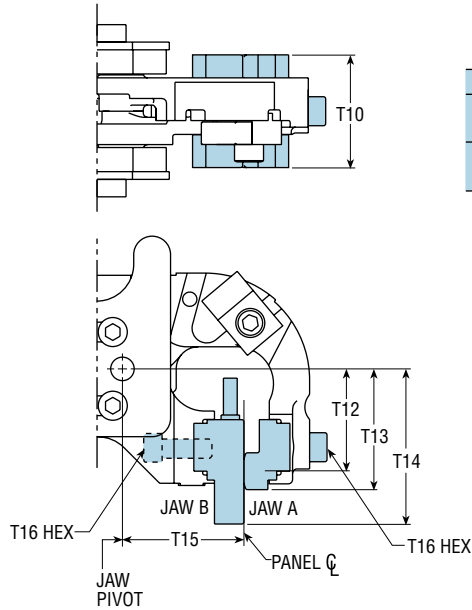
Tx045 - Tx047



Kit includes:
1 Tip
1 Mounting Screw and Washer

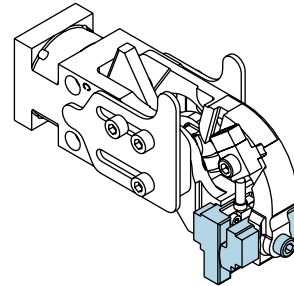
OPTION	TIP COLOR	KIT NO.	LIST PRICE
Tx042	black	65151-04	\$44.25
Tx043	silver	65151-05	\$46.50
Tx044	gold	65151-06	\$51.15
Tx045	black	65151-07	\$62.55
Tx046	silver	65151-08	\$56.85
Tx047	gold	65151-09	\$81.45

TIP OPTIONS: CLAMP ACCESSORIES



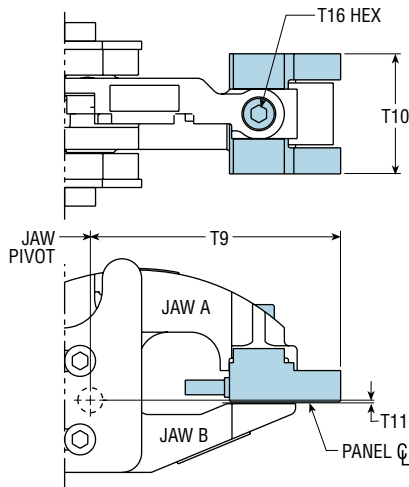
RECOMMENDED TIP COMBINATION

FLANGE JAW STYLE			MATERIAL THICKNESS (mm)						
CLAMP SIZE	JAW	TIP TYPE CODE	0 to .85	.86 to 1.2	1.21 to 1.52	1.53 to 1.94	1.95 to 2.29	2.30 to 2.6	
2	A	rounded TA	042	043	044	043	044	044	
	B	flat TB	045	045	045	046	046	047	



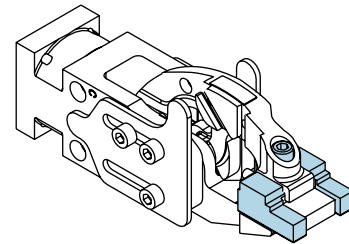
GRM2TF-2-85-00-S01-TA042-TB045

LETTER DIM.	2xX	
	in	mm
T5	.295	7.5
T7	2.472	62.8
T8	2.722	69.1
T9	3.188	81.0
T10	1.530	38.9
T11	.025	.6
T12	1.388	35.3
T13	1.639	41.6
T14	2.106	53.5
T15	1.646	41.8
T16	.197	5.0



RECOMMENDED TIP COMBINATION

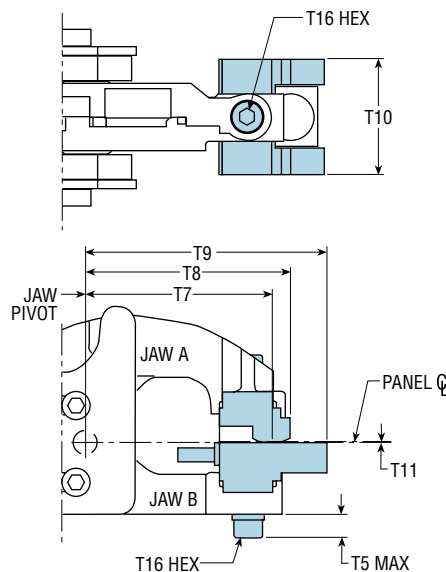
STANDARD JAW STYLE			MATERIAL THICKNESS (mm)		
CLAMP SIZE	JAW	TIP TYPE CODE	0 to 1.50	1.51 to 3.00	3.01 to 4.00
2	A	flat TA	042	043	044



GRM2TD-2-75-00-JB01-S01-TA045

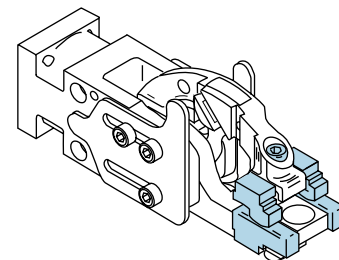
NOTE: JB01 REQUIRED FOR CHISEL JAW

LETTER DIM.	2xR	
	in	mm
T5	.295	7.5
T7	1.782	45.3
T8	2.032	51.6
T9	2.498	63.4
T10	1.530	38.9
T11	.025	.6
T16	.197	5.0



RECOMMENDED TIP COMBINATION

STANDARD & SHORT JAW STYLES			MATERIAL THICKNESS (mm)		
CLAMP SIZE	JAW	TIP TYPE CODE	0 to 1.50	1.51 to 3.00	3.01 to 4.00
2	A	rounded TA	042	043	044
	B	flat TB	045	046	047
2xR	A	rounded TA	042	043	—
	B	flat TB	045	046	—



GRM2TS-2-75-00-S01-TA042-TB045

Pricing subject to change. Consult local distributor for current pricing.

TIP OPTIONS: CLAMP ACCESSORIES

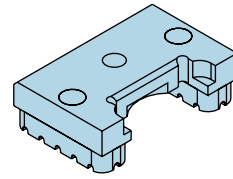
Tx052

or

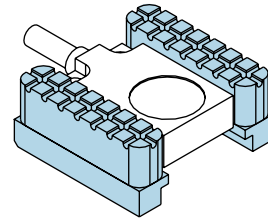
Tx055

DOUBLE URETHANE TIPS FOR MOUNTING FLAT PROXIMITY SWITCH (A ON JAW A, B ON JAW B)

This option provides panel sensing with a double urethane tip that mounts and protects a proximity switch (S01) in a very small package. A special matching shorter urethane tip (Tx052) is required. Urethane tips eliminate marks in show surfaces. Both short and long tips mount on standard and flange style jaws, creating a very flexible sensing package. These tips are a set. The short tip needs to be matched to a long tip. See recommended tip combinations on the next page.



SHORT



LONG

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB052	\$25.10
		TA or TB055	\$30.10

A tip must be specified for jaw A and jaw B. Price adder is per tip.

Example Ordering Data:

GRM2TS-2-45 **blank** -45 **blank** -LAA **-S01** **-TA052** **-TB055**

SHADED CODES are required for this option.

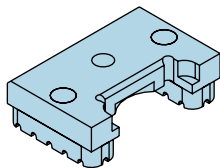
BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

DOUBLE URETHANE (SHORT)

Tx052

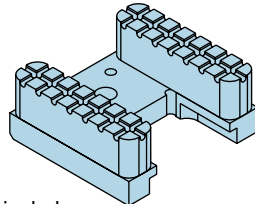


Kit includes:

- 1 Tip
- 1 Mounting Screw

DOUBLE URETHANE (LONG)

Tx055

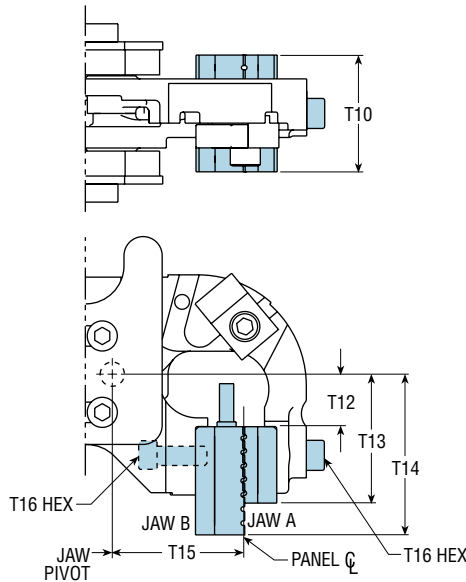


Kit includes:

- 1 Tip
- 1 Mounting Screw

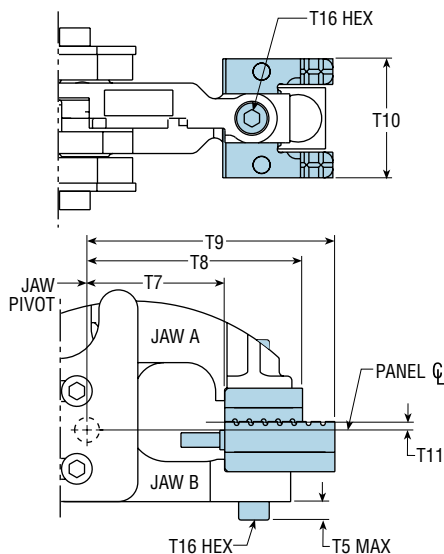
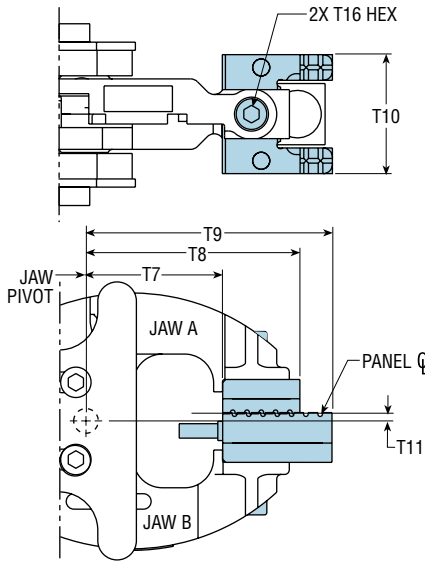
OPTION	TIP COLOR	KIT NO.	LIST PRICE
Tx052	red	65150-04	\$25.10
Tx055	red	65150-05	\$30.10

TIP OPTIONS: CLAMP ACCESSORIES



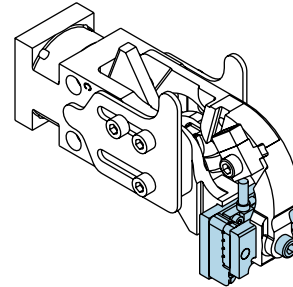
LETTER DIM.	2xX	
	in	mm
T5	.236	6.0
T7	1.768	44.9
T8	2.771	70.4
T9	3.188	81.0
T10	1.530	38.9
T11	.100	2.5
T12	.686	17.4
T13	1.688	42.9
T14	2.106	53.5
T15	1.721	43.7
T16	.197	5.0

LETTER DIM.	2xR	
	in	mm
T5	.236	6.0
T7	1.078	27.4
T8	2.081	52.9
T9	2.498	63.4
T10	1.530	38.9
T11	.100	2.5
T16	.197	5.0



RECOMMENDED TIP COMBINATION

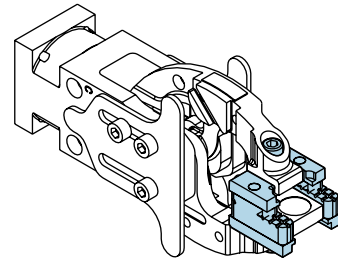
CLAMP SIZE	FLANGE JAW STYLE		MATERIAL THICKNESS (mm)	
	JAW	TIP TYPE	TIP CODE	0 to 2.00
2	A	short	TA	052
	B	long	TB	055



GRM2TF-2-85-00-S01-TA052-TB055

RECOMMENDED TIP COMBINATION

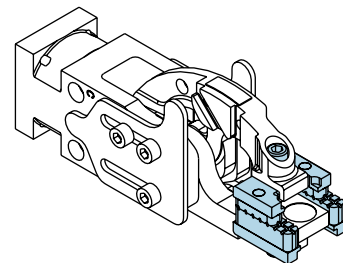
CLAMP SIZE	STANDARD JAW STYLE		MATERIAL THICKNESS (mm)	
	JAW	TIP TYPE	TIP CODE	0 to 3.00
2	A	short	TA	052
	B	long	TB	055



GRM2TS-2-75-75-S01-TA052-TB055

RECOMMENDED TIP COMBINATION

CLAMP SIZE	STANDARD & SHORT JAW STYLES		MATERIAL THICKNESS (mm)		
	JAW	TIP TYPE	TIP CODE	0 to 2.25	0 to 3.00
2	A	short	TA	—	052
	B	long	TB	—	055
2xR	A	short	TA	052	—
	B	long	TB	055	—



GRM2TS-2-75-00-S01-TA052-TB055

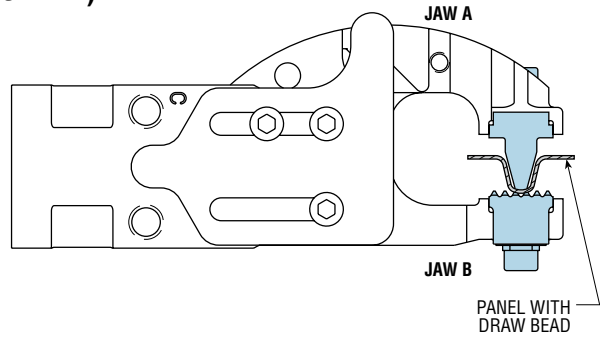
Pricing subject to change. Consult local distributor for current pricing.

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TIP OPTIONS: CLAMP ACCESSORIES

Tx060 to Tx061 DRAWBEAD AND OFFSET TIP (A ON JAW A, B ON JAW B)

The drawbead tip is a double tip that is shaped similar to the inside of a drawbead. This shape allows it to transfer the panels by gripping the center of the drawbead. The opposite tip is a short double diamond that grips the other side of the panel. These tips grip the bottom of the drawbead (not the sides), so material thickness is needed. These tips are a set; the short diamond tip -030 is used for all material thicknesses. The long drawbead tip, -060 and -061, is specified based on the material thickness. Available for GRM2xK, GRM2xR, and GRM2xS jaw styles only.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB060 and 061	\$61.95
		TB030	\$52.50

A tip must be specified for jaw A and jaw B. Price adder is per tip.

Example Ordering Data:

GRM2T S -2-45 blank -45 blank -LAA -TA060 TB030

SHADED CODES are required for this option.

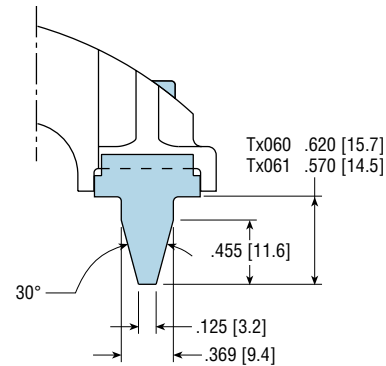
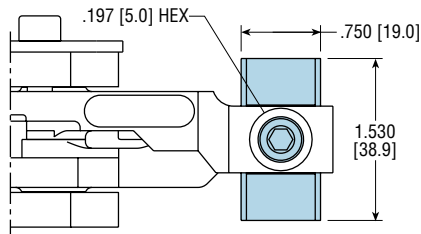
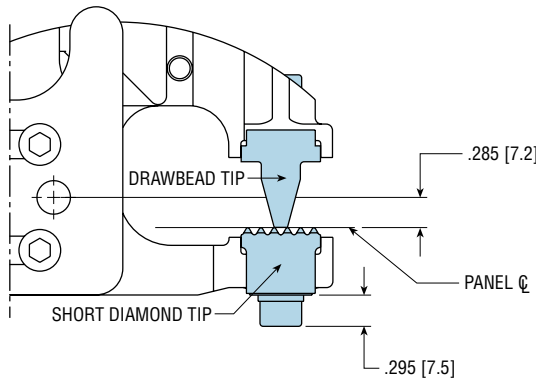
BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

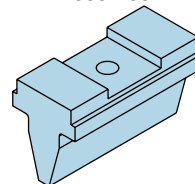


RECOMMENDED TIP COMBINATION

CLAMP SIZE	K, R, & S JAW STYLES		MATERIAL THICKNESS (mm)	
	JAW	TIP TYPE CODE	0 to 1.50	1.51 to 3.00
2	A	drawbead TA	060	061
	B	diamond TB	030	030

DRAWBEAD

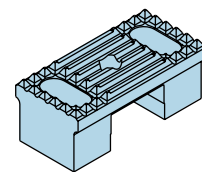
Tx060 - 061



Kit includes:
1 Drawbead Tip
1 Mounting Screw

SHORT OFFSET DIAMOND

Tx030



Kit includes:
1 Offset Tip
1 Mounting Screw and Washer

FOR STANDARD JAW STYLES ONLY

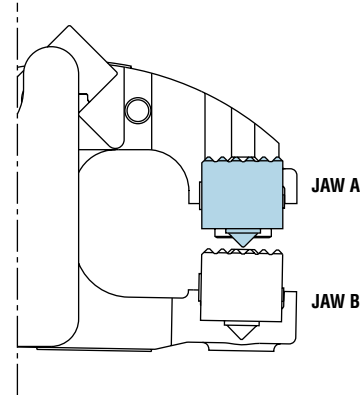
CLAMP SIZE	KIT		TYPE	CODE	MATERIAL THICKNESS (mm)	TIP COLOR
	NUMBER	PRICE				
2	65171-03	\$61.95	long	TA or TB060	0 - 1.5	black
	65171-04	\$61.95	long	TA or TB061	1.51 - 3.0	silver
	65405-06	\$52.50	short	TA or TB030	0 - 3.0	black

TIP OPTIONS: CLAMP ACCESSORIES

Tx063 to **Tx065** SHARP DOUBLE CONE POINT TIP (A ON JAW A, B ON JAW B)

Sharp cone points have a tip that is very sharp (less than .015 in [0.4 mm]). They should be used with a double diamond tip (DDB, DDS, or DDG) mounted opposite them or a chisel or shovel jaw.

Tips should be specified (black, silver, or gold) for the material thickness and jaw style. Sharp cones can be used on jaw A or jaw B.



AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB063, 064, or 065	\$35.70

Price adder is for one double sharp double cone point tip mounted to jaw.

Example Ordering Data:

GRM2S **S** **-2-45** **blank** **-45** **blank** **-LAA** **-TA063** **-TB063**

SHADED CODES are required for this option.

BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

For simplicity, these tables show the sharp cone point tip on jaw A.

If sharp cones are ordered on jaw A & B, they will be mounted as shown.

TA(B)063 = black

TA(B)064 = silver

TA(B)065 = gold

RECOMMENDED TIP COMBINATION

STANDARD JAW STYLE			MATERIAL THICKNESS (mm)			
CLAMP SIZE	JAW	TIP CODE	0 to 1.50	1.51 to 3.00	3.01 to 4.00	4.01 to 4.38
2	A	TA	063	064	065	065
	B	DDx	DDB	DDS	DDG	DDR

FLANGE JAW STYLE			MATERIAL THICKNESS (mm)						
CLAMP SIZE	JAW	TIP CODE	0 to 0.85	.86 to 1.20	1.21 to 1.52	1.53 to 1.94	1.95 to 2.29	2.30 to 2.60	2.61 to 3.00
2	A	TA	063	064	065	064	065	065	065
	B	DDx	DDB	DDB	DDB	DDS	DDS	DDG	DDR

SHORT JAW STYLE			MATERIAL THICKNESS (mm)		
CLAMP SIZE	JAW	TIP CODE	0 to 1.50	1.51 to 3.00	3.01 to 3.38
2xR	A	TA	063	064	065
	B	DDx	DDB	DDS	DDR

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	CODE TA OR TB KIT NOS.			KIT PRICE
	063	064	065	
2	71231-03	71231-04	71231-05	\$35.70

Kit includes:
1 Tip
1 Mounting Screw

Pricing subject to change. Consult local distributor for current pricing.

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TIP OPTIONS: CLAMP ACCESSORIES

Tx071 to Tx082 15° SINGLE OR DOUBLE DIAMOND TIP (A ON JAW A, B ON JAW B)

This option provides single or double diamond tips with the gripping surface on a 15° angle. The tips can be used to grip angled surfaces while keeping the clamp parallel, decreasing the space required by the clamp. These tips are a set and must be used as a pair.

Tx071 to Tx082 accessories are only available for GRM2xK and GRM2xS clamps. Tx071, Tx072, Tx074, Tx075, Tx077, Tx078, Tx080, and Tx081 are only available for GRM2xR clamps. Tx074 to Tx076 and Tx080 to Tx082 (downward mounting) are not available for GRM2xF clamps. For other GRM2xF applications, consult PHD.

AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB071, 072, 073, 074, 075, 076	\$56.35
		TA or TB077, 079, 080, 082	\$61.10
		TA or TB078, 081	\$62.35

Price adder is for one 15° tip mounted to the jaw.

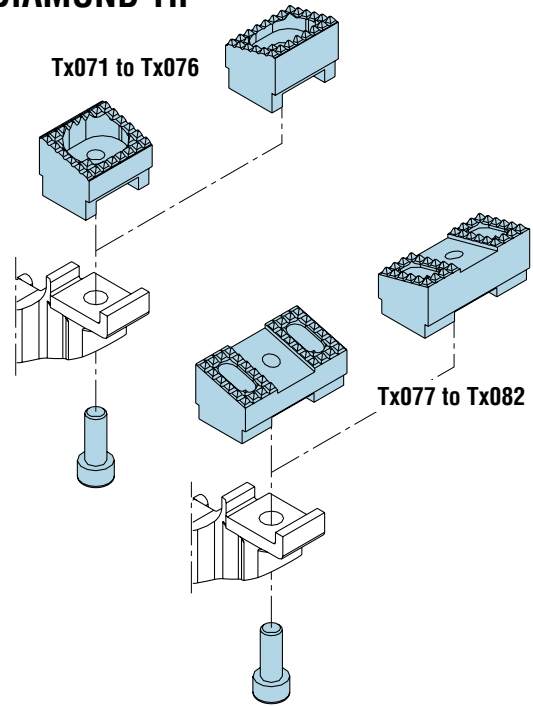
Example Ordering Data:

GRM 2 TS-2-45 blank -45 blank -LAA -TA071 -TB071

SHADED CODES are required for this option.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.



UPWARD MOUNTING

SINGLE

TA071/TB071 = black
TA072/TB072 = silver
TA073/TB073 = gold

DOUBLE

TA077/TB077 = black
TA078/TB078 = silver
TA079/TB079 = gold

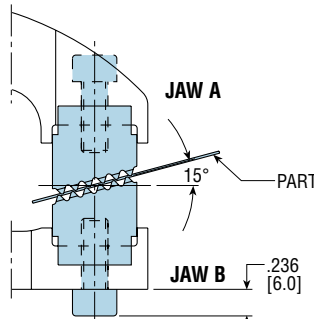
DOWNWARD MOUNTING

SINGLE

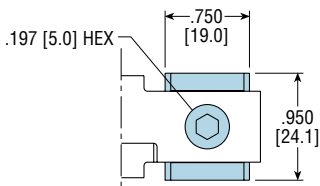
TA074/TB074 = black
TA075/TB075 = silver
TA076/TB076 = gold

DOUBLE

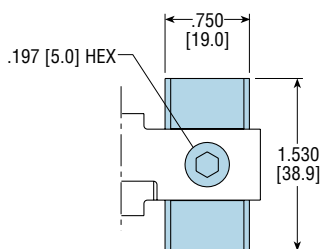
TA080/TB080 = black
TA081/TB081 = silver
TA082/TB082 = gold



SINGLE DIAMOND TIP



DOUBLE DIAMOND TIP



NOTES:

- 1) ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	OPTION	TIP STYLE	TIP COLOR	KIT NUMBER	LIST PRICE
2	Tx071, Tx074	single	black	71229-03	\$56.35
2	Tx072, Tx075	single	silver	71229-04	\$56.35
2	Tx073, Tx076	single	gold	71229-05	\$56.35
2	Tx077, Tx080	double	black	71229-06	\$61.10
2	Tx078, Tx081	double	silver	71229-07	\$62.35
2	Tx079, Tx082	double	gold	71229-08	\$61.10

Kit includes: 1 15° Single or Double Diamond Tip, 1 Mounting Screw

FOR K AND S JAW STYLES

TIP OPTION	MATERIAL THICKNESS (mm)	TIP COLOR	TIP STYLE	MOUNTING ORIENTATION
TA071/TB071	0 - 1.5	black	single	upward
TA072/TB072	1.51 - 3.0	silver	single	upward
TA073/TB073	3.01 - 4.0	gold	single	upward
TA074/TB074	0 - 1.5	black	single	downward
TA075/TB075	1.51 - 3.0	silver	single	downward
TA076/TB076	3.01 - 4.0	gold	single	downward
TA077/TB077	0 - 1.5	black	double	upward
TA078/TB078	1.51 - 3.0	silver	double	upward
TA079/TB079	3.01 - 4.0	gold	double	upward
TA080/TB080	0 - 1.5	black	double	downward
TA081/TB081	1.51 - 3.0	silver	double	downward
TA082/TB082	3.01 - 4.0	gold	double	downward

FOR R JAW STYLE

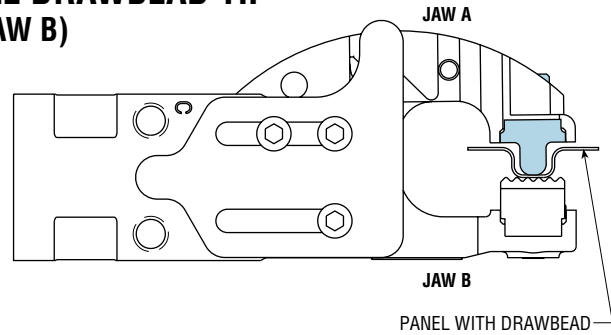
TIP OPTION	MATERIAL THICKNESS (mm)	TIP COLOR	TIP STYLE	MOUNTING ORIENTATION
TA071/TB071	0 - 1.5	black	single	upward
TA072/TB072	1.51 - 3.0	silver	single	upward
TA074/TB074	0 - 1.5	black	single	downward
TA075/TB075	1.51 - 3.0	silver	single	downward
TA077/TB077	0 - 1.5	black	double	upward
TA078/TB078	1.51 - 3.0	silver	double	upward
TA080/TB080	0 - 1.5	black	double	downward
TA081/TB081	1.51 - 3.0	silver	double	downward

Assembling the tips rotated 180° turns upward mounting into downward mounting.

TIP OPTIONS: CLAMP ACCESSORIES

Tx083 to Tx084 SINGLE OR DOUBLE DRAWBEAD TIP (A ON JAW A, B ON JAW B)

The drawbead tip is a single or double tip that is shaped similarly to the inside of a drawbead. This shape allows the clamp to transfer panels by gripping the center of the drawbead. The opposite tip is a standard single or double diamond point tip on K, R, and S jaw styles. Standard tips must be called out in the model number and specified (black, silver, or gold) for the material thickness. Single and double diamond point tips are not required on C, D, H, J, L, and M jaw styles.



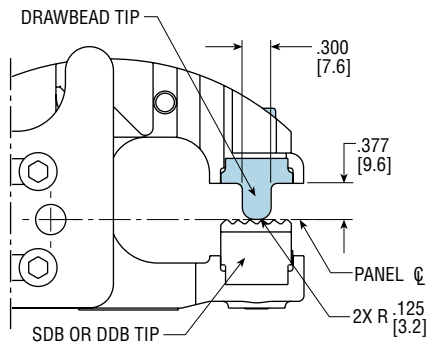
AVAILABLE ON	DESIGN NO.	ACCESSORY	PRICE ADDER
GRM2	2 [6]	TA or TB083	\$71.75
		TA or TB084	\$71.75

Price adder is for one drawbead tip mounted to the jaw.

Example Ordering Data:

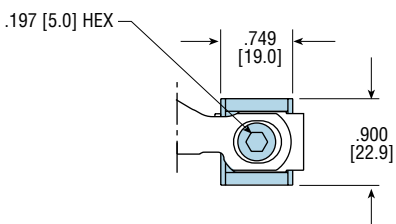
GRM2T **S** -2-45 **blank** -45 **SDB** -LAA **-TA083**

GRM2T **M** -2-45 **blank** -00 -LAA **-TA084**



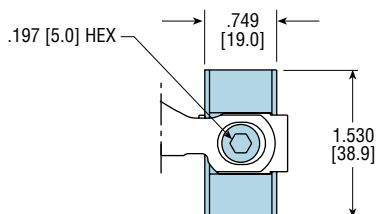
SINGLE DRAWBEAD

Tx083



DOUBLE DRAWBEAD

Tx084



SHADED CODES are required for this option.

BORDERED CODES will normally be ordered.

All unshaded model codes are example only.

For compatibility with other units, consult PHD.

NOTES:

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- 2) ALL METRIC DIMENSIONS [] ARE GIVEN IN MILLIMETERS 1 mm = .03937 in

RECOMMENDED TIP COMBINATION

CLAMP SIZE	K, R, S JAW STYLES		MATERIAL THICKNESS (mm)	
	JAW	TIP TYPE	0 to 3.00	0 to 3.00
2	A	drawbead	TA	083
	B	diamond	—	SDB DDB

CLAMP SIZE	C, D, H, J, L, M JAW STYLES		MATERIAL THICKNESS (mm)	
	JAW	TIP TYPE	0 to 3.00	0 to 3.00
2	A	drawbead	TA	083 084

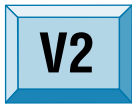
REPLACEMENT KIT NUMBERS AND PRICES IF ORDERED SEPARATELY

CLAMP SIZE	OPTION	TIP STYLE	KIT NUMBER	LIST PRICE
2	Tx083	SINGLE	75646-03	\$71.75
	Tx084	DOUBLE	75646-04	\$71.75

Kit includes:

- 1 Drawbead Tip
- 1 Mounting Screw

SEAL OPTIONS: CLAMP ACCESSORIES



FLUORO-ELASTOMER SEALS FOR FLUID COMPATIBILITY

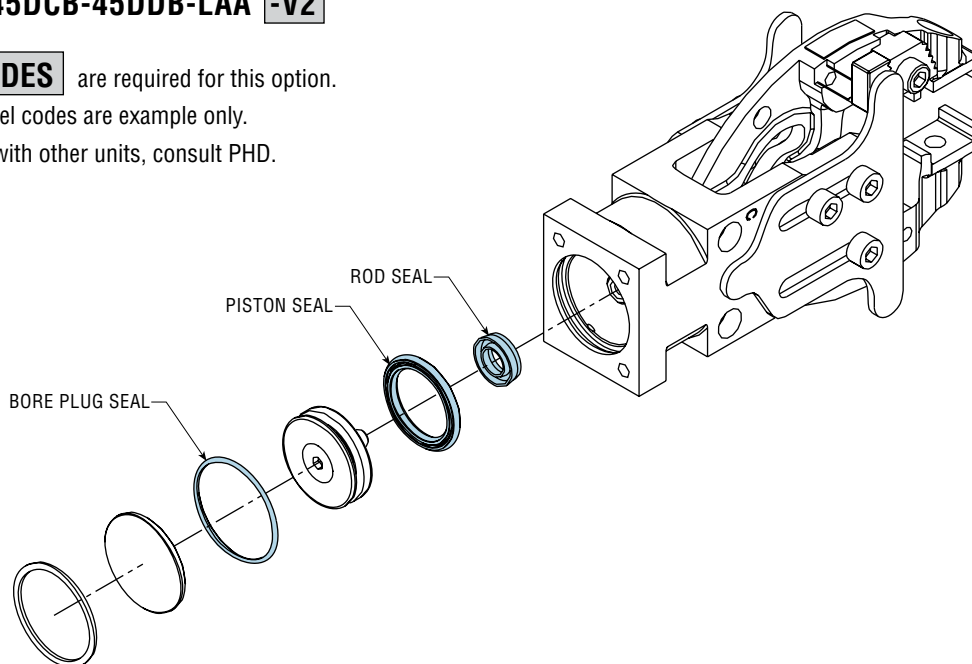
This option provides a Series GRM Clamp with fluoro-elastomer seals that are compatible with certain fluids. Seal compatibility should be checked with the fluid manufacturer for proper application. **This option is not for high temperature applications.** Consult PHD Clamp Division for high temperature applications.

AVAILABLE ON	DESIGN NO.	PRICE ADDER
GRM2	2 [6]	\$10.00
GRM4	2 [6]	\$20.20

Example Ordering Data:

GRM2TS-2-45DCB-45DDB-LAA -V2

SHADED CODES are required for this option. All unshaded model codes are example only. For compatibility with other units, consult PHD.



REPLACEMENT KIT NUMBER AND PRICE IF ORDERED SEPARATELY

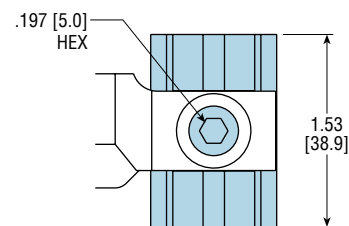
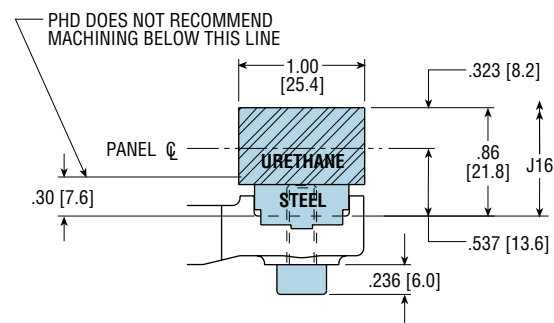
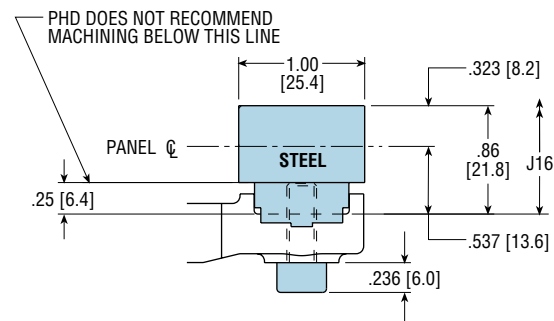
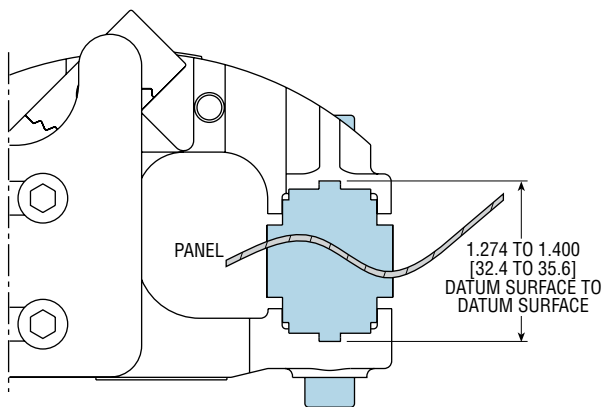
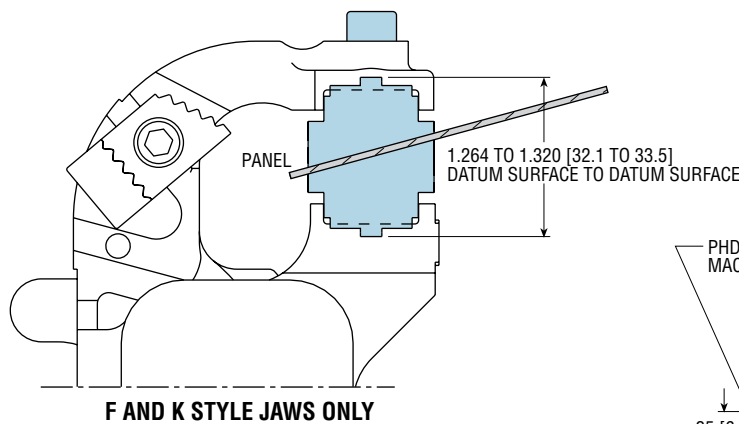
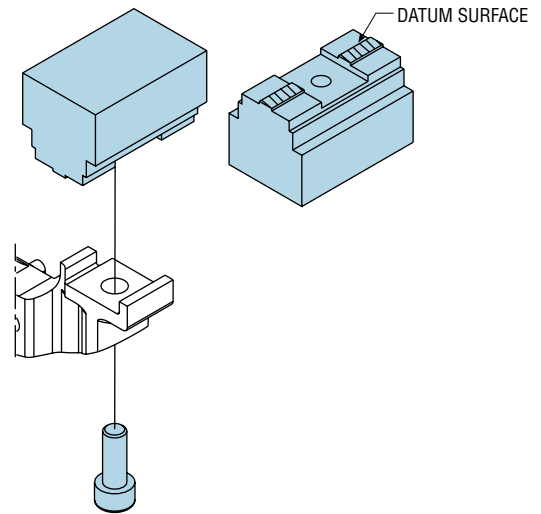
CLAMP SIZE	KIT NUMBER	LIST PRICE
GRM2	65498-03	\$10.00
GRM2-B05	65498-07	\$10.00
GRM2-B08	65498-04	\$10.00
GRM2-B08A	65498-06	\$10.00
GRM4	65498-05	\$20.20

Kit includes:
 1 Rod Seal
 1 Piston Seal
 1 Bore Plug Seal

KITS (CUSTOMER MOUNTED): CLAMP ACCESSORIES

MACHINEABLE TIPS (STEEL & URETHANE)

This customer-mounted tip provides a steel or urethane blank that can be machined to match panel contours. It has extra stock on all sides, so it can be fitted to many applications. The steel blank is made of unplated 4140 steel hardened to 27 - 32 Rc, and coated with a rust preventative oil dip, it can be machined and used as is or sent out for additional hardening and plating. The 90 Durometer red urethane blank is bonded to a steel interface that includes the mounting thread. Care should be taken when using these tips to ensure the jaws close to the correct dimension, so that full grip force and the locking feature are achieved. Do this by contouring both tips to match the panel's shape and thickness so that the dimension measured from the datum surface on back of one tip (including the panel) to the datum surface on the other tip is within the range specified. This tip can be mounted on moving and fixed standard and flange jaws.



CLAMP SIZE	KIT NUMBER	LIST PRICE	MATERIAL
2	65174-03	\$27.20	Steel
2	65174-04	\$37.65	Urethane

Kit includes:
 1 Machineable Tip
 1 Mounting Screw

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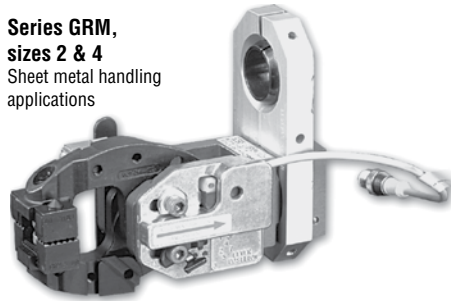
Clamp Solutions

GRM

Major Benefits

- 13 jaw styles available
- Modular-designed tips
- Fully field-repairable
- Easy mounting Panel Present Detection communicates when a panel is present
- Conveniently located Double Sheet Detection communicates when multiple panels are detected
- Many accessories available

Series GRM, sizes 2 & 4
Sheet metal handling applications



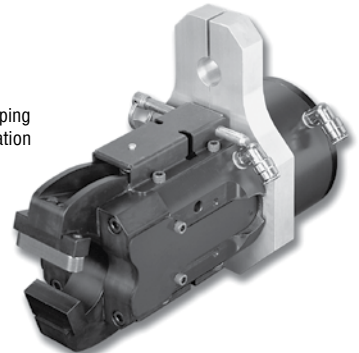
Series GRM, size 1
ideal for robotic or end effector applications

PNC *Number Cruncher*[®]

Major Benefits

- Provides cost effective solution for stamping identification characters into parts or metal
- High clamp force produces characters in draw quality steel at 70 psi [4.8 bar]
- Operates quietly in less than .24 seconds
- Eliminates downtime associated with changing or replacing characters
- Many accessories available

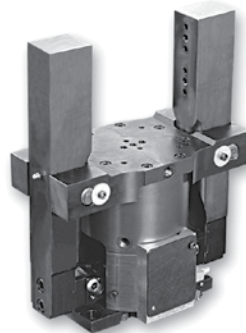
Series PNC
Automated stamping for part identification



PFC *Frame Clamp*

Major Benefits

- Ideal for heavy parts clamping
- Rugged cam design provides consistent clamping force throughout a wide power window
- Wide jaw throat accommodates large parts with simple tooling
- Tooling surface has dowels and threads to North American Automotive Metric Standards NC blocks

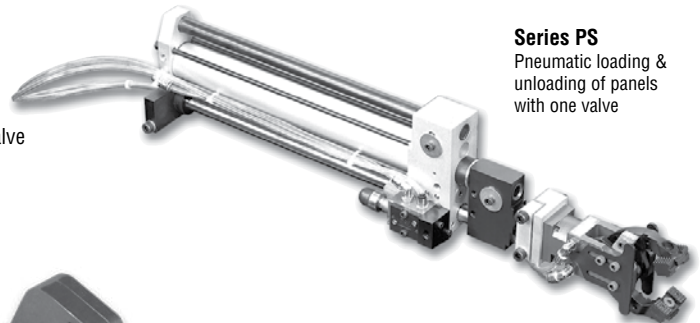


Series PFC
Heavy parts clamping

PS *Reach and Pick*

Major Benefits

- Pneumatic slide and clamp are powered with only one external valve
- Clamp jaws stay open until slide is fully extended
- Clamp can be spherically adjusted to match panel
- Uses standard Series GRM Clamps and accessories
- Clamp jaws remain closed if pressure is lost



Series PS
Pneumatic loading & unloading of panels with one valve

PEC *Arm Over*

Major Benefits

- Superior part holding
- Cam design provides widest range of high clamping force in its class
- Available in four bore sizes
- Multiple output shaft options for mounting arms on either or both sides
- Weld field immune switch option provides consistent position sensing



Series PEC
Superior part holding in assembly & welding environments



Electric version coming soon!

PA/PB/PC *Swing Arm*

Major Benefits

- Simple design, compact size, for low weight, long life, and high clamp force make these clamps ideal for part holding or transfer
- Series PA are available in five sizes
- Series PB are available in four sizes with long and short strokes
- Series PC have tapered rod end for easy arm angle adjustment
- Available in left and right rotations



Series PA
Work holding in a welding environment



Series PB
Wide variety of automated part holding and transfer applications

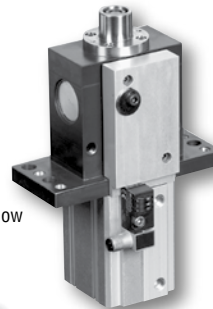


Series PC
MRO drop-in replacement unit opportunity

PLK/PLKD/PLKE *Pin Locating*

Major Benefits

- Enclosed finger protects against weld slag and contamination
- Short pin length ideal for blind applications
- 5 or 10 mm clamping strokes
- Available in four standard pin sizes
- NAAAMS™ mounting
- Open or closed position sensing with industry standard AC or DC weld field immune switches
- Lightweight construction facilitates mounting on robots
- Series PLKD's main pin retracts fully into part support



Series PLKD
Pin retracts below part support



Series PLK
Part clamping in weld areas



Series PLKE
Ideal electric clamp for work holding, part handling, and positioning in welding areas.

PLC *Pin Clamp*

Major Benefits

- Ideal for part clamping in weld areas
- Completely enclosed design
- Available in two sizes, with up to six pin size choices and two pin styles
- 12.5 mm of clamping stroke allows shimming part support for easy height setup

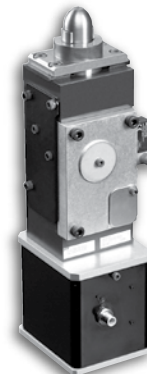


Series PLC
Part clamping in weld areas

PLCE *Electric Pin Locating*

Major Benefits

- Completely enclosed design
- One medium source minimizes jurisdictional down-time
- IP 65 environmental rating
- Integrated electronics provides simple customer interface
- Available in two sizes, with up to six pin size choices and two pin styles
- Manual unlock standard



Series PLCE
Ideal for part clamping in weld areas

PHL *Heavy Lifter*

Major Benefits

- Simple design, compact size, long life, and the ability to handle high off-center loads
- Available as drop-in replacement for General Motors Global Die Standards, (GMGDS) 90.35.05-A and B
- Built-in rod compliance eliminates side load on cylinder piston rod thus increasing life



Series PHL
Automated, high load part lifting applications

Clamping & Sheet Metal Handling Solutions

*Arm Over
Electric
Heavy Parts Clamping
Metal Stamping
Pin Locating
Sheet Metal Transfer
Shot Pin
Swing Arm*



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