

GRM0

Pneumatic Workholding Clamps

- Designed for high force in an extremely compact and lightweight package
- Generates up to 135 lb [600 N] total clamp force
- Locks in closed position

LEADING
DESIGN,
OPTIMIZED
FOR WEIGHT
& SIZE



GRMOB



Member of the MAC
Distributor Network



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GRMO

Major Benefits

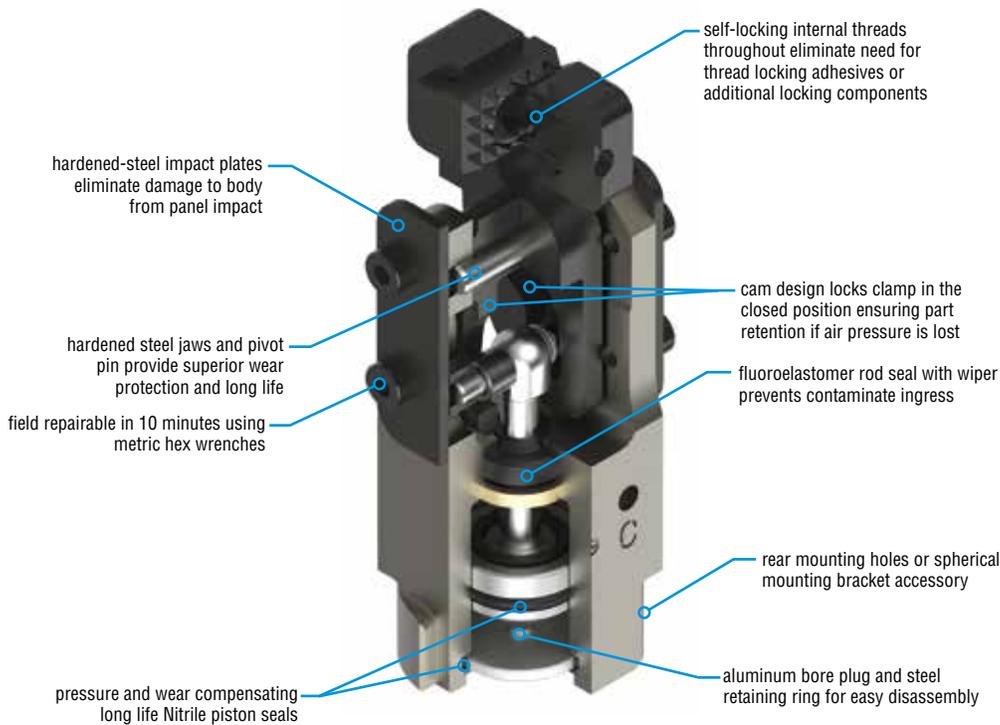
- Compact envelope size, lightweight, and strong. Weighing under 0.54 lb [0.24 kg], the clamp generates up to 135 lb [600 N] of total clamp force.
- Simple design, long life, and fast field maintenance.
- The clamp jaws lock in the closed position, ensuring part retention if air pressure is lost due to line rupture or power loss.
- Ideal for applications where size and weight are a concern.
- Perfect for robotic crossbar transfer press applications.
- A superior alternative to vacuum cups or magnetic-type grippers due to its ruggedness and part retention in the event of air pressure loss.
- This design includes the -B11 Side Mount Body option as standard to accept standard side mounting brackets for additional mounting flexibility.



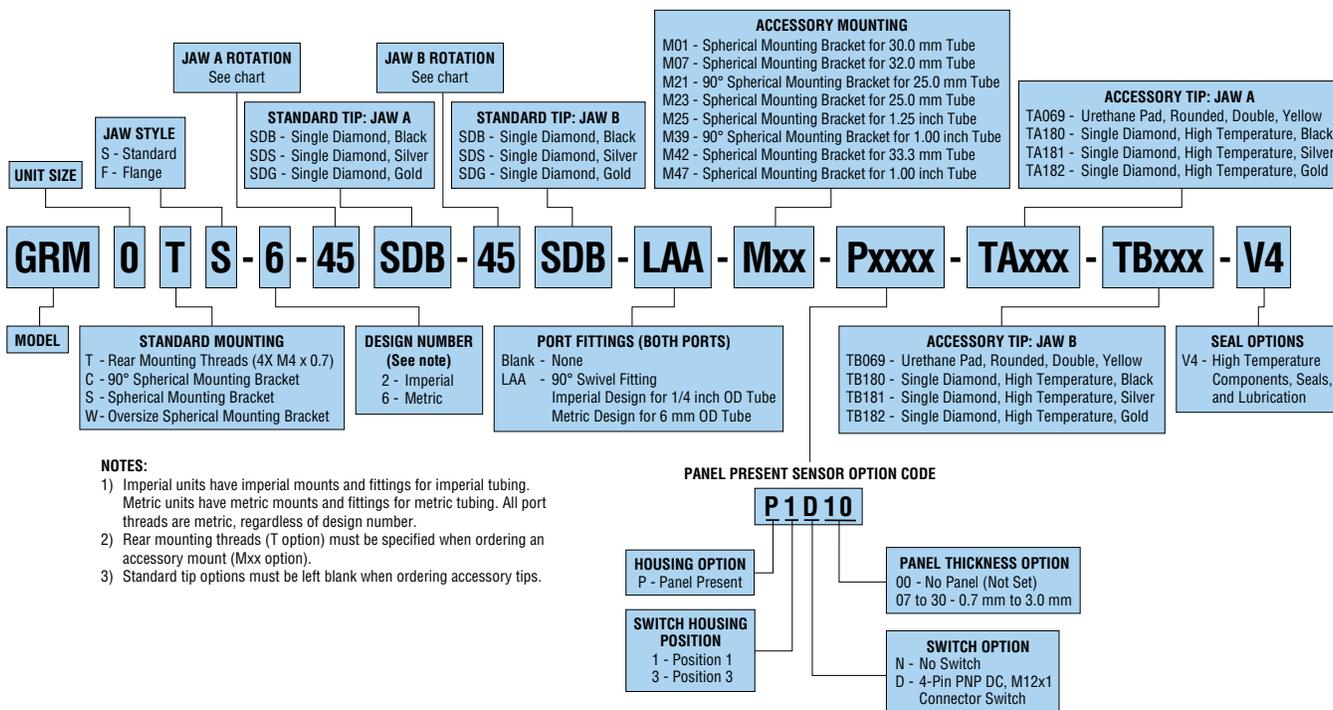
Flange Jaw Style 'F'



Standard Jaw Style 'S'



ORDERING & ENGINEERING DATA: Series GRMO Clamps



NOTES:

- 1) Imperial units have imperial mounts and fittings for imperial tubing. Metric units have metric mounts and fittings for metric tubing. All port threads are metric, regardless of design number.
- 2) Rear mounting threads (T option) must be specified when ordering an accessory mount (Mxx option).
- 3) Standard tip options must be left blank when ordering accessory tips.

JAW ROTATIONS

GRMOxS			
JAW STYLE OPTION S	JAW A		
	0°	45°	68°
JAW B	0°		
	45°		
	68°		

GRMOxF		
JAW STYLE OPTION F	JAW A	
	0°	60°
JAW B	0°	
	60°	

= Available Combinations

For other configurations, consult your local distributor or PHD, Inc.

NOTE: The 0° jaw rotates open slightly during the clamp cycle. The 0° jaw returns to 0° position as the opposing jaw reaches the fully open or fully closed positions.

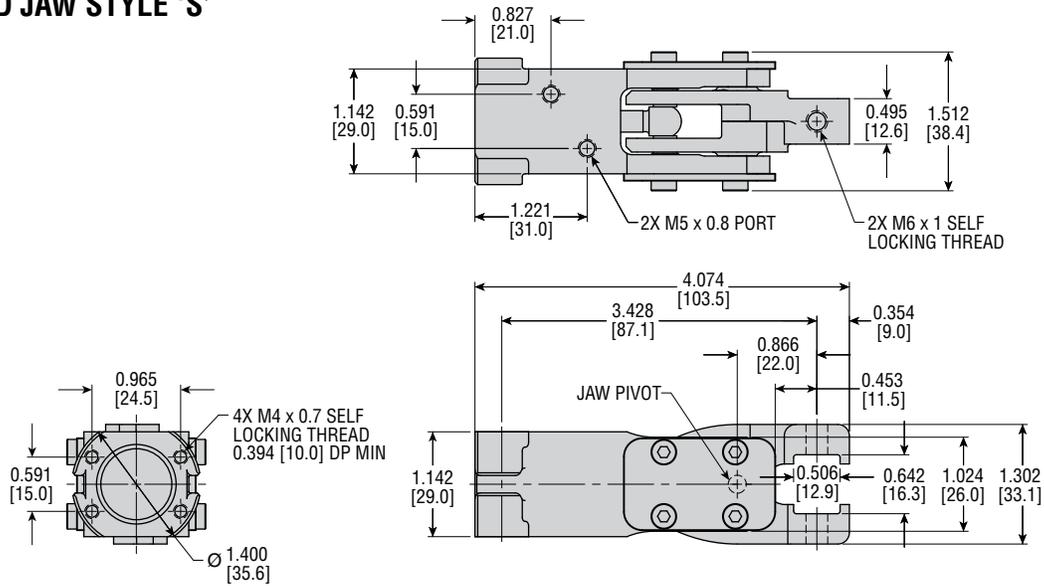
MODEL	UNIT WEIGHT		TOTAL GRIP FORCE at 87 psi [6 bar]		CYCLE TIME at 87 psi [6 bar]	PRESSURE LIMITS				TEMPERATURE LIMITS			
						MIN.		MAX.		MIN.		MAX.	
	lb	kg	lb	N	second	psi	bar	psi	bar	°F	°C	°F	°C
GRMO	0.54	0.24	135	600	0.15	30	2	100	7	-20	-30	180	82

CAD & Sizing Assistance

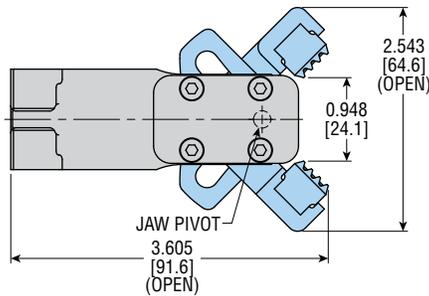
Use PHD's free online Product Sizing and CAD Configurator at phdinc.com/myphd

DIMENSIONS: Size GRM0 Clamps- Jaw Style S

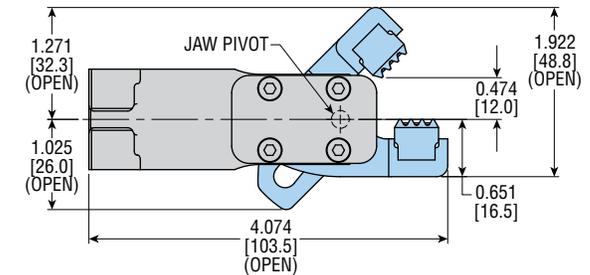
STANDARD JAW STYLE 'S'



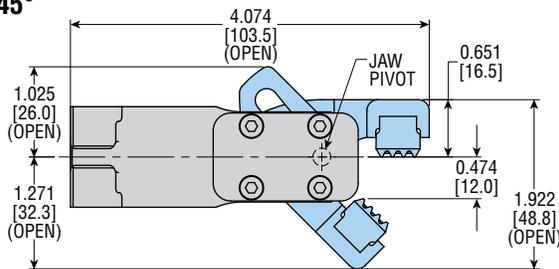
45° x 45°



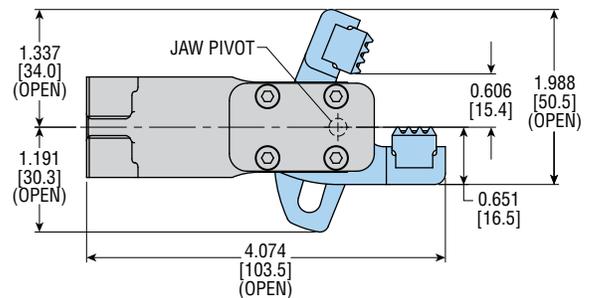
45° x 00°



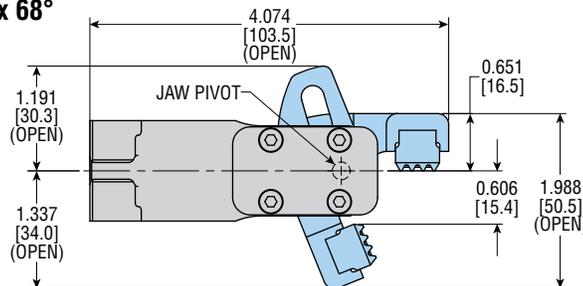
00° x 45°



68° x 00°



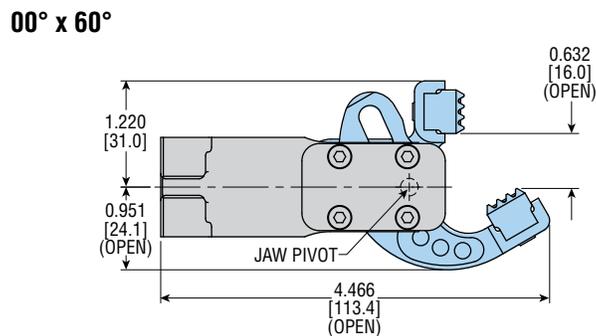
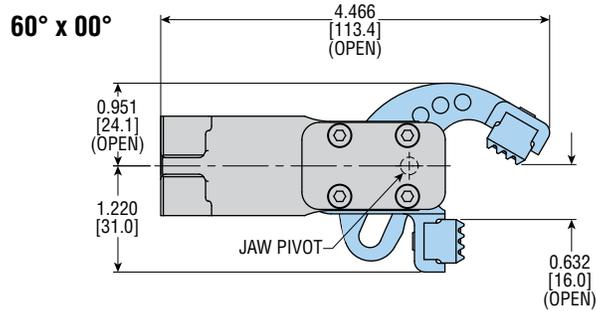
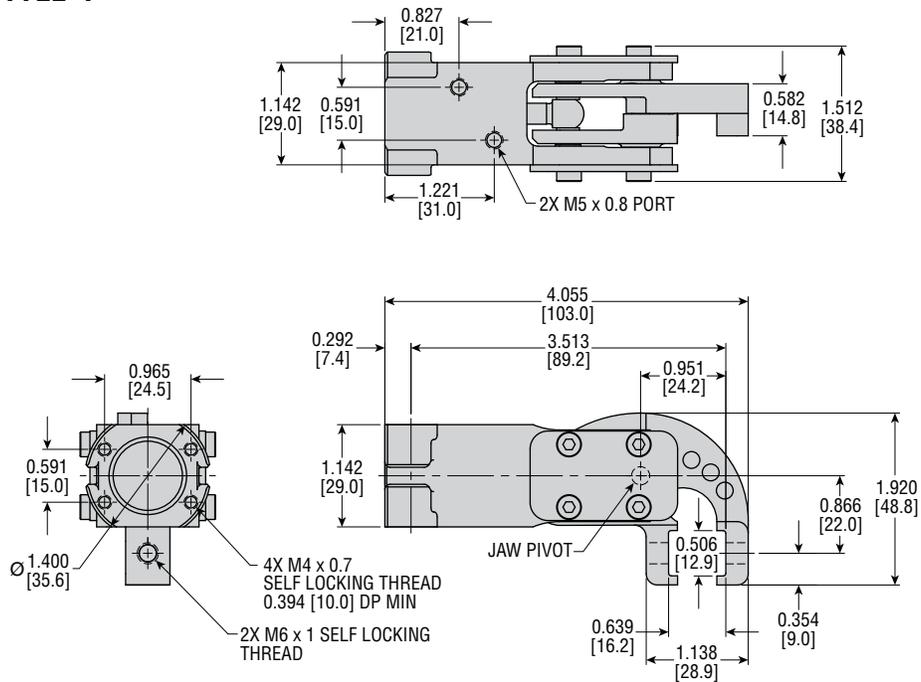
00° x 68°



All dimensions are reference only unless specifically tolerated.

DIMENSIONS: Size GRM0 Clamps - Jaw Style F

FLANGE JAW STYLE 'F'



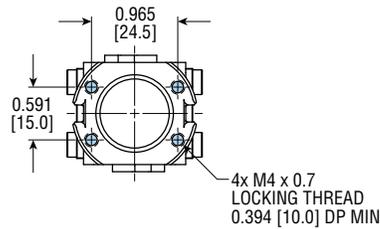
All dimensions are reference only unless specifically tolerated.

ORDERING DATA:

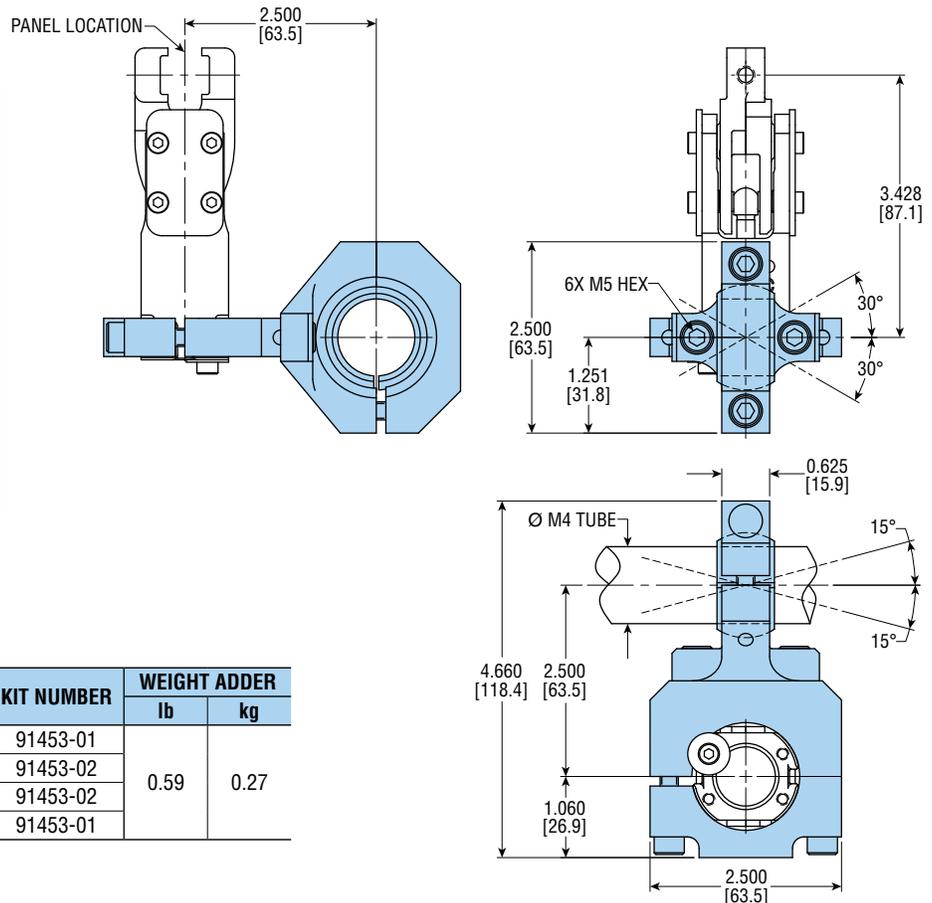


NOTE: Rear mounting threads (T option) must be specified when ordering an accessory mount (Mxx option).

GRMO **T** REAR MOUNTING THREADS (4X M4 x 0.7)



GRMO **C** x or GRMOTx- **M21** **M39** 90° SPHERICAL MOUNTING BRACKET

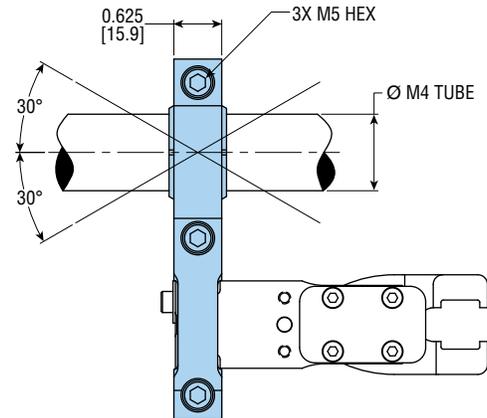
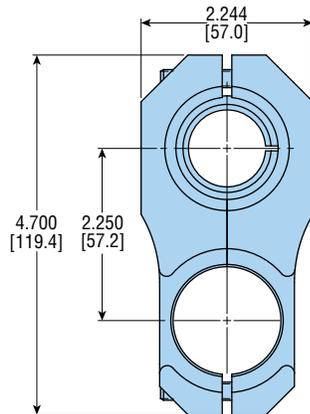


MODEL NUMBER OR ACCESSORY CODE	Ø M4 MOUNTING TUBE SIZE	KIT NUMBER	WEIGHT ADDER	
			lb	kg
GRMOCx-2	1.0 in	91453-01	0.59	0.27
GRMOCx-6	25.0 mm	91453-02		
GRMOTx-2-M21	25.0 mm	91453-02		
GRMOTx-6-M39	1.0 in	91453-01		

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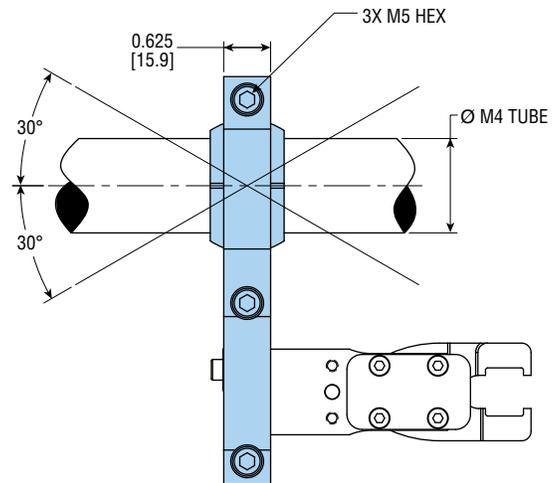
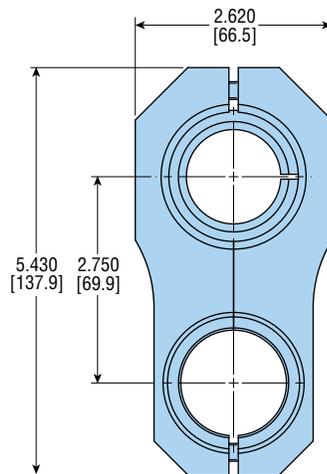
MOUNTING: Series GRM0 Clamps

GRM0 **S** x or GRM0Tx- **M23** **M47** SPHERICAL MOUNTING BRACKET



MODEL NUMBER OR ACCESSORY CODE	Ø M4 MOUNTING TUBE SIZE	KIT NUMBER	WEIGHT ADDER	
			lb	kg
GRM0Sx-2	1.0 in	91454-01	0.47	0.21
GRM0Sx-6	25.0 mm	91454-02		
GRM0Tx-2-M23	25.0 mm	91454-02		
GRM0Tx-6-M47	1.0 in	91454-01		

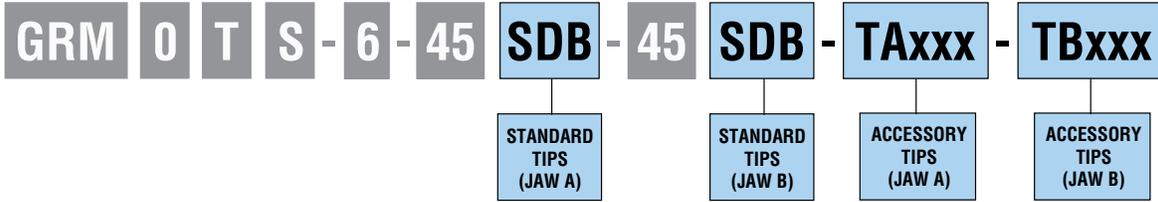
GRM0 **W** x or GRM0Tx- **M01** **M07** **M25** **M42** OVERSIZE SPHERICAL MOUNTING BRACKET



MODEL NUMBER OR ACCESSORY CODE	Ø M4 MOUNTING TUBE SIZE	KIT NUMBER	WEIGHT ADDER	
			lb	kg
GRM0Wx-2	1.25 in	91455-01	0.76	0.34
GRM0Wx-6	33.3 mm	91455-02		
GRM0Tx-x-M01	30.0 mm	91455-03		
GRM0Tx-x-M07	32.0 mm	91455-04		
GRM0Tx-6-M25	1.25 in	91455-01		
GRM0Tx-2-M42	33.3 mm	91455-02		

All dimensions are reference only unless specifically tolerated.

ORDERING DATA:



NOTE: Standard tip options must be left blank when ordering accessory tips.



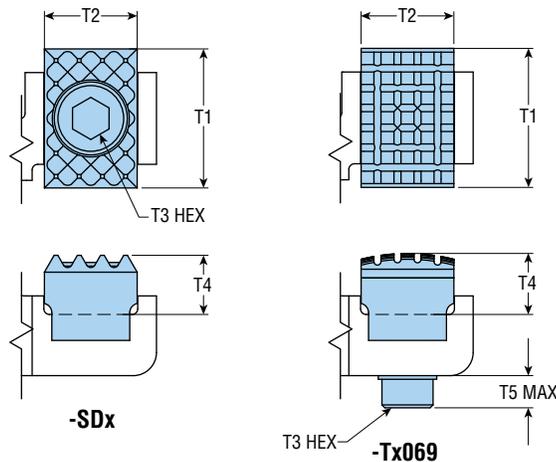
	TIP DESCRIPTION	MODEL NO. OR ACCESSORY CODE	TIP COLOR	KIT NO.	WEIGHT	
					lb	g
STANDARD TIP	Single Diamond Point	SDB	Black	91448-01	0.033	15
		SDS	Silver	91448-02		
		SDG	Gold	91448-03		
ACCESSORY TIP	Single Diamond Point (High Temp)	-Tx180	Black	91448-04	0.031	14
		-Tx181	Silver	91448-05		
		-Tx182	Gold	91448-06		
	Double Rounded Urethane Pad	-Tx069	Yellow	91448-07		

		MATERIAL THICKNESS (mm)				
JAW A	JAW B	0.0 - 0.6	0.7 - 1.2	1.3 - 1.8	1.9 - 2.4	2.5 - 3.0
SDB	SDB					
SDS	SDS					
SDS	SDS					
SDS	SDG					
SDG	SDG					
TA069	TB069					
TA180	TB180					
TA180	TA181					
TA181	TB181					
TA181	TA182					
TA182	TB182					

NOTES:

- 1) Jaw A tips and Jaw B tips can be reversed.
- 2) Tip options are not recommended for material thickness below 0.25 mm.

= Available Material Thickness



OPTION CODE	T1		T2		T3		T4		T5	
	in	mm	in	mm	in	mm	in	mm	in	mm
-SDB and -Tx180	0.750	19.1	0.500	12.7	0.197	5.0	0.319	8.10	—	—
-SDS and -Tx181	0.750	19.1	0.500	12.7	0.197	5.0	0.294	7.47	—	—
-SDG and -Tx182	0.750	19.1	0.500	12.7	0.197	5.0	0.274	6.96	—	—
-Tx069	0.750	19.1	0.500	12.7	0.118	3.0	0.329	8.4	0.181	4.6

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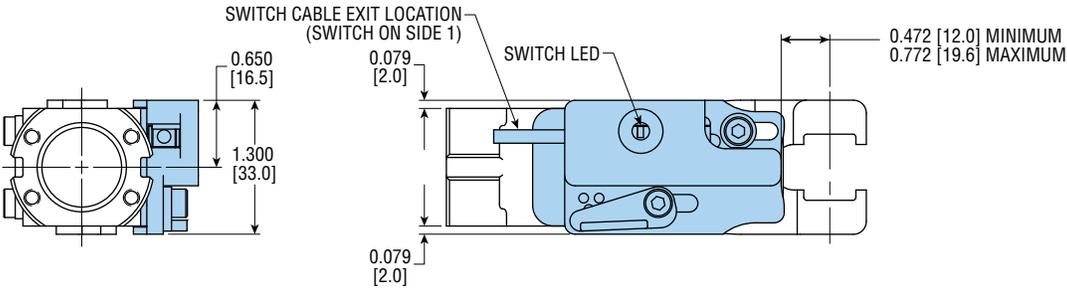
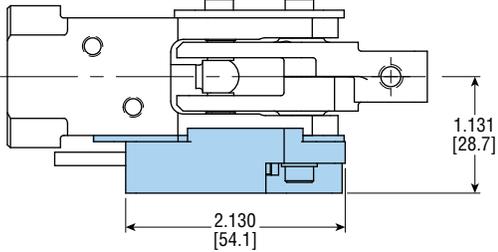
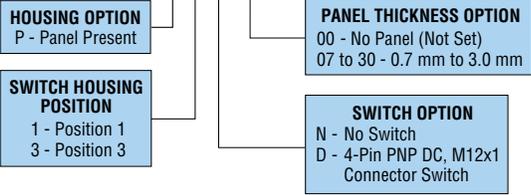
Pxxxxx PANEL PRESENT DETECTION

- Option provides switch housing and switch to detect presence of part.
- Position of internal target relates directly to jaw position and thickness of material gripped.
- Ideal choice for backup or redundant signaling detection.
- Option functions within a wide range of material thicknesses from 0.027 to 0.118 in [0.7 to 3.0 mm].
- Housing adjustment may be preset at factory for panel thickness in 0.004 in [0.1 mm] increments.
- P1x00 and P3x00 options do not require factory setup. For compatibility with other units, consult PHD.



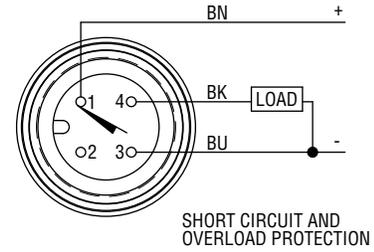
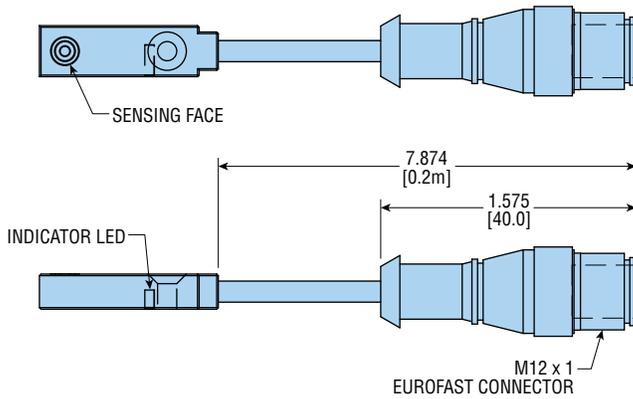
Example Ordering Data:

GRM 0 T S - 6 - 45 SDB - 45 SDB - LAA - P 1 D 10



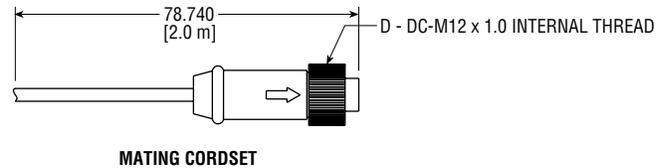
All dimensions are reference only unless specifically tolerated.

SWITCH OPTION D: 81686-001 (PNP)



WIRING DIAGRAM

ACCESSORY CODE	KIT NUMBER	JAW REBUILD KIT NUMBER	WEIGHT ADDER	
			lb	kg
D	91452-01	91447-02	0.09	0.04
N	91452-02			



MATING CORDSET

SWITCH OPTION	SWITCH TYPE	PHD SWITCH NUMBER	VENDOR	VENDOR PART NUMBER	CORDSET PHD PART NUMBER	CORDSET VENDOR PART NUMBER
D	4-pin DC - N.O. - PNP	81686-001	Turck	BI 2-Q5.5-AP6X-0.2M-RS 4T	65413-00-02	RK 4T-2



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.
- Push housing towards jaws to the extent of travel.
- Carefully slide housing toward cylinder until switch 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.
- Slightly move housing forward and backward. If switch flickers off and on, rotate lever into next hole and repeat process until switch stays on.
- Tighten both screws to 27 lb-in [3.1 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.

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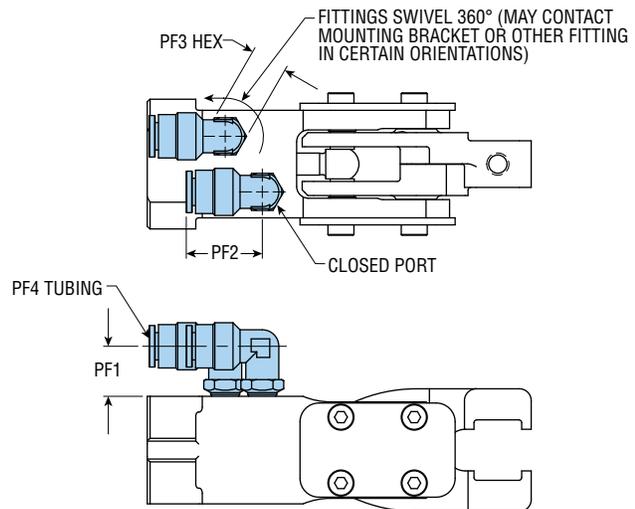
LAA

90° SWIVEL ELBOW, METAL PORT FITTINGS

FITTING PART NUMBERS IF ORDERED SEPARATELY

PORT FITTING OPTION	PORTS	
	IMPERIAL	METRIC
LAA	62178-064	62195-073

LETTER DIM	PORT FITTING OPTION	
	in	mm
PF1	0.531	13.0
PF2	0.807	20.0
PF3	0.394	10.0
PF4	1/4	6.0



V4

HIGH TEMPERATURE SEAL OPTION

Option includes high temperature seals and lubrication rated to 392°F [200°C]. Please note switches are not recommended for temperatures over 158°F [70°C].

Seal Kit Number if ordered separately: 91449-02



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EXPLODED ASSEMBLY PARTS: Series GRM0 Clamps

KEY	PART DESCRIPTION	PART NUMBER
		GRM0
1	Body Assembly	87052-007-12
2A	Piston	87056-001
2B	Shock Pad	54600-02
3	Bore Plug	61465
4	Retaining Ring	57618-022
5	Impact Plate	87060-001
6	Piston Rod/Jaw Driver	87057-001
7	Roller Bushing	87059-001
8	Slider Bushing	87058-001
9	Dowel Pin (4 x 28)	17831-081
10	Dowel Pin (5 x 28)	17831-049
11A	Jaw (S) 0°	87055-006-000
	Jaw (S) 45°	87055-006-450
	Jaw (S) 68°	87055-006-680
	Jaw (F) 0°	87055-003-000
	Jaw (F) 60°	87055-007-600
11B	Jaw (S) 0°	87055-006-000
	Jaw (S) 45°	87055-006-450
	Jaw (S) 68°	87055-006-680
	Jaw (F) 0°	87055-003-000
	Jaw (F) 60°	87055-007-600
14	LHCS (M4 x 6)	14308-400
15	SHCS (M3 x 10)	59104-075
17	Piston Seal	74042-005
18	O-Ring Seal	3642-018-1
121	Flat Washer	70365-001
122	SHCS (M4 x 10)	59104-018

KIT DESCRIPTION	KIT NUMBER
	GRM0
Seal Kit	91449-01
Jaw Rebuild Kit ⁽¹⁾	91447-01
Fastener Kit	91450
Impact Plate Kit	91451

NOTE:

- Jaw rebuild kits for Pxxxx option can be found in the respective catalog sections.
- Items shown in  are included in fastener kit.
- Items shown in  are included in seal kit.
- Items shown in  are included in jaw rebuild kit.
- Items shown in  are included in impact plate kit.
Impact kit includes: 2 impact plates, 8 SHCS

