

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *PHD 55823-1* at our website: *Click HERE*

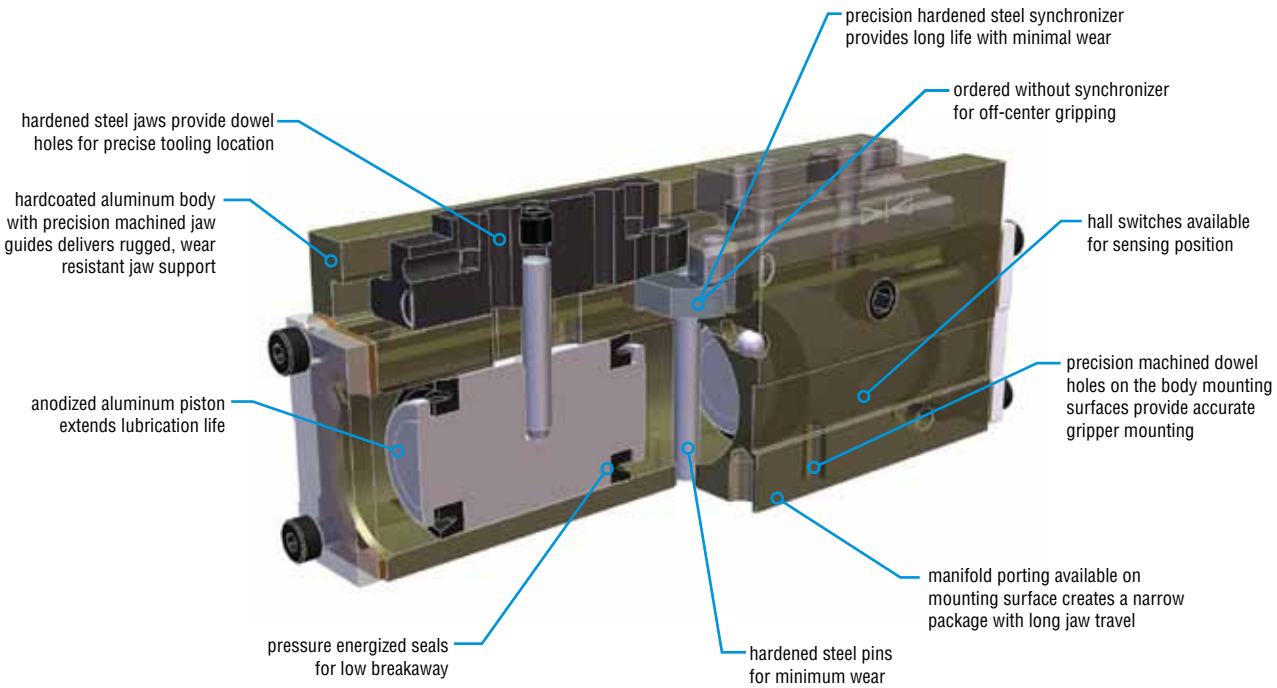
GRL

NARROW BODY PNEUMATIC PARALLEL GRIPPER



Major Benefits

- Synchronous jaw motion (may be ordered without synchronizer for offset gripping)
- Narrow width, low profile and long travel lengths
- Manifold porting option
- Two jaw travels per bore size
- Two sizes available in both imperial and metric versions
- 1-2 day shipping
- 6 million cycles minimum rated life



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

TO ORDER SPECIFY:
Product Line, Series, Type, Synchronization, Jaw, Design No., Size, Total Jaw Travel, and Options required.

SERIES
Regular Duty

SYNCHRONIZATION
0 - Non-synchronized
1 - Synchronized

DESIGN NO.
(See Note 1)
1 - Imperial
5 - Metric

OPTIONS
(OMIT IF NOT REQUIRED)
MANIFOLD OPTIONS
L11-UB99 - Manifold option in location 99
UNIT OPTIONS
E - Hall Switch Ready

G R L 1 2 - 1 - 14 x 13 - L11-UB99

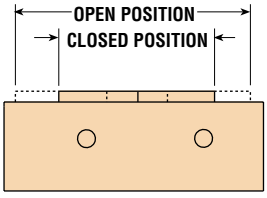
PRODUCT LINE
G - Gripper

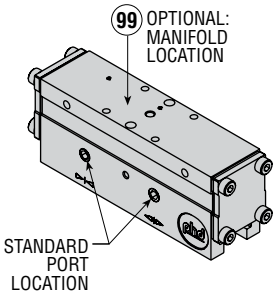
TYPE
Narrow Body Parallel

JAW
Style 2

BORE SIZE Diameter mm	(in)	MINIMUM TOTAL JAW TRAVEL Total Travel Per Bore Size mm	(in)
14	(.551)	**7**	(.276)
14	(.551)	**13**	(.512)
16	(.630)	**20**	(.787)
16	(.630)	**26**	(1.024)

TOTAL JAW TRAVEL =
(OPEN POSITION - CLOSED POSITION)





NOTE:
1) Design number indicates imperial or metric mounting holes, dowel pin holes, and ports.

Options may affect unit length. See dimensional pages and option information details.

Refer to this product's online catalog in the product section for complete information including related dimensions and additional specifications. See link at bottom of this page.

6 mm SQUARE HALL EFFECT SWITCHES

PART NO.	COLOR	DESCRIPTION
55803-1-02	Yellow	NPN (Sink) 4.5-24 VDC, 2 meter cable
55804-1-02	Red	PNP (Source) 4.5-24 VDC, 2 meter cable
55823-1	Yellow	NPN (Sink) 4.5-24 VDC, Quick Connect
55824-1	Red	PNP (Source) 4.5-24 VDC, Quick Connect

NOTE: See Switches and Sensors section for additional switch information and complete specification. Switches must be ordered separately.

HALL EFFECT SWITCH MOUNTING KIT

PART NO.	DESCRIPTION
68487-1	Switch Mounting Kit

Each mounting kit contains:
1 6 mm square switch bracket
1 mounting screw

Designer's Resource myphd®

CAD & Sizing Assistance

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

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

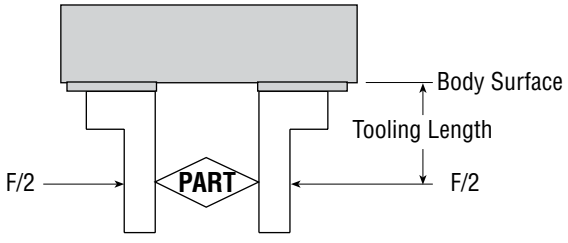
SPECIFICATIONS	SERIES GRL
OPERATING PRESSURE	
STANDARD UNIT	5 psi min to 100 psi max [.4 bar min to 7 bar max] air
OPERATING TEMPERATURE	-20° to +180°F [-28° to +82°C]
RATED LIFE	6 million cycles minimum
GRIP REPEATABILITY	Within ±0.002 in [±0.05 mm] of original centered position
CYCLE TIME	See table below
LUBRICATION	Factory lubricated for rated life
MAINTENANCE	Field repairable

SIZE	MINIMUM TOTAL JAW TRAVEL		TOTAL CLOSE GRIP FORCE AT 87 psi [6 bar]		GRIPPER WEIGHT		CLOSE OR OPEN TIME 87 psi [6 bar]	DISPLACEMENT		GRIP FORCE FACTOR G_F EXTERNAL GRIP		INTERNAL GRIP	
	in	mm	lb	N	lb	kg	sec	in³	cm³	IMPERIAL	METRIC	IMPERIAL	METRIC
GRL 14x7	0.28	7	28	124	0.18	0.08	0.085	.067	1.1	0.32	21	0.32	21
GRL 14x13	0.51	13	30	132	0.24	0.11	0.100	.128	2.1	0.34	22	0.34	22
GRL 16x20	0.79	20	41	182	0.39	0.18	0.110	.245	4.0	0.47	30	0.47	30
GRL 16x26	1.02	26	41	182	0.47	0.21	0.120	.319	5.2	0.47	30	0.47	30

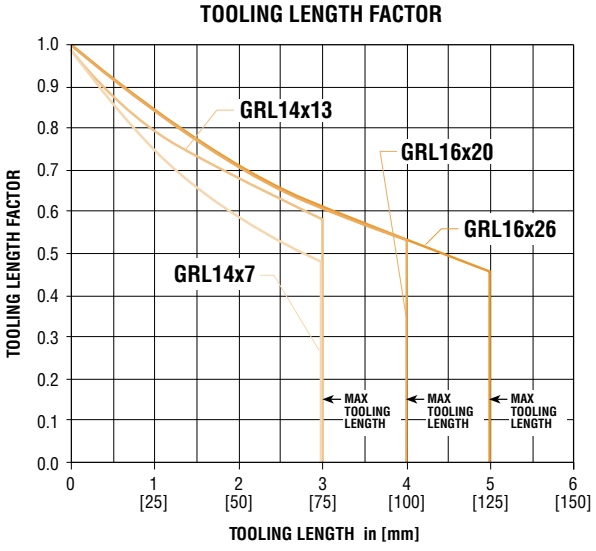
GRL

TOOLING LENGTH FACTOR

Jaw tooling should be designed so that the grip point is as close to the body surface as possible. As the grip point is moved away from the body surface, the applied moment causes jaw friction to increase, resulting in reduced effective grip force. The Grip Force Factor (G_F) values given in the table above are for zero tooling length (body surface).



F=TOTAL GRIP FORCE



GRIP FORCE CALCULATION EQUATIONS:

IMPERIAL:

TOTAL GRIP FORCE [lb] = (Pressure [psi] x G_F) x Tooling Length Factor

METRIC:

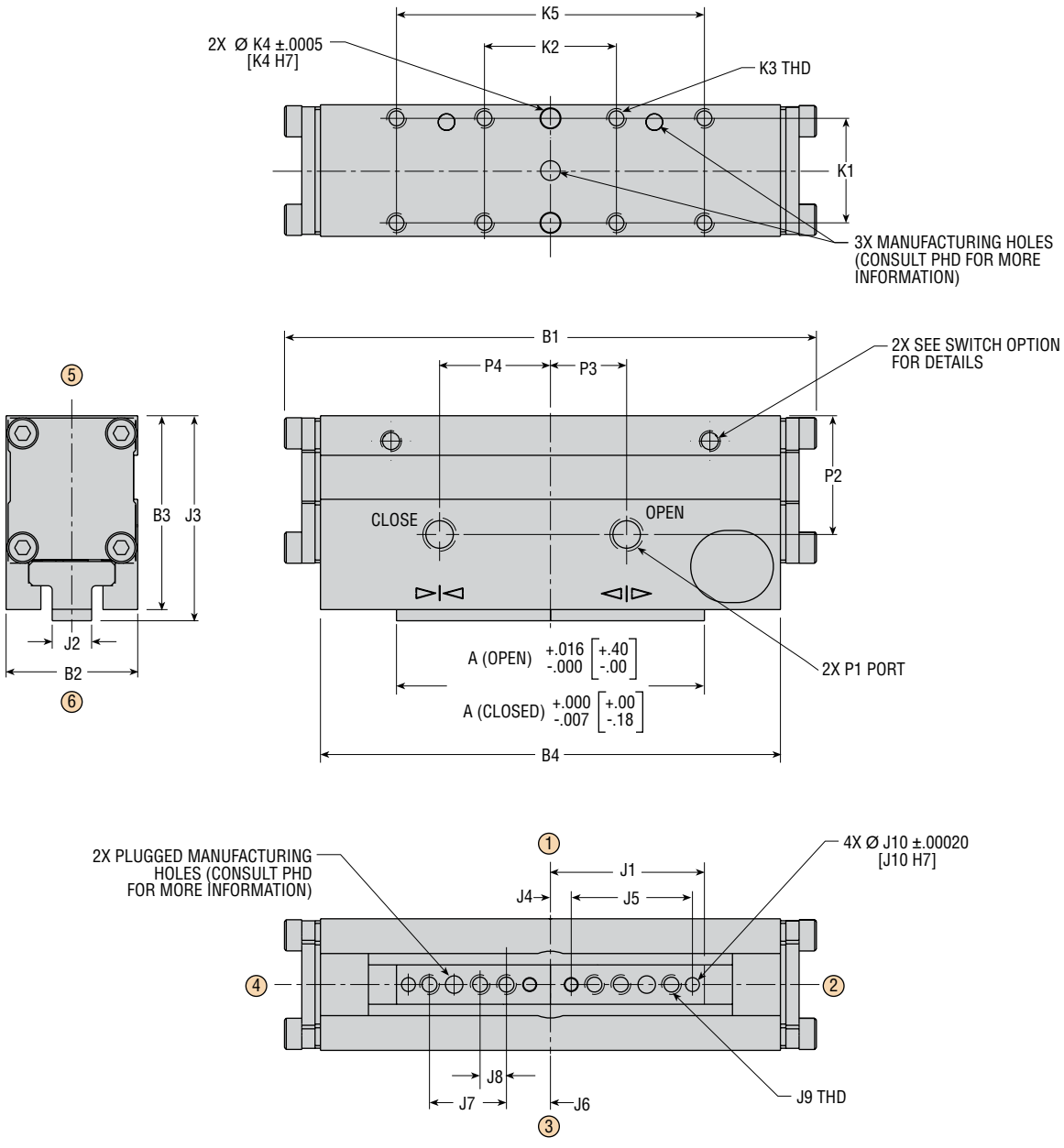
TOTAL GRIP FORCE [N] = (Pressure [bar] x G_F) x Tooling Length Factor

UNIT SIZING ONLINE

Sizing & Application Assistance

Use PHD's free online Product Sizing Application or view the Product Sizing Catalog at: www.phdinc.com/apps/sizing

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



NOTES:
1) NUMBERS IN [ ] ARE mm.
2) CIRCLED NUMBERS INDICATE POSITIONS.
3) ALL DIMENSIONS ARE CENTERED ON CENTERLINE OF UNIT UNLESS OTHERWISE SPECIFIED.

All dimensions are reference only unless specifically toleranced.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

LETTER DIM	MODEL NUMBER							
	GRLx2-x-14x7		GRLx2-x-14x13		GRLx2-x-16x20		GRLx2-x-16x26	
	in	mm	in	mm	in	mm	in	mm
MIN TRAVEL PER JAW	.138	3.5	.256	6.5	.394	10.0	.512	13.0
A CLOSED	1.500	38.1	1.750	44.5	2.250	57.2	2.625	66.7
A OPEN	1.778	45.2	2.264	57.5	3.042	77.3	3.653	92.8
B1	2.316	58.8	3.022	76.8	3.905	99.2	4.614	117.2
B2	.748	19.0	.748	19.0	.874	22.2	.874	22.2
B3	1.102	28.0	1.102	28.0	1.230	31.2	1.230	31.2
B4	1.908	48.5	2.614	66.4	3.497	88.8	4.206	106.8
J1	.750	19.1	.875	22.2	1.125	28.6	1.313	33.3
J2	.2240	5.69	.2240	5.69	.2240	5.69	.2240	5.69
J3	1.162	29.5	1.162	29.5	1.281	32.5	1.281	32.5
J4	.118	3.0	.118	3.0	.118	3.0	.118	3.0
J5	.5709	14.50	.6890	17.50	.9055	23.00	1.1024	28.00
J6	.250	6.4	.250	6.4	.250	6.4	.250	6.4
J7	.312	7.92	.438	11.11	.625	15.88	.750	19.05
J8	—	—	—	—	.250	6.35	.250	6.35
J9	4 x 4-40 x .190 DP	4 x M3 x 0.5 x 4.8 DP	4 x 4-40 x .190 DP	4 x M3 x 0.5 x 4.8 DP	6 x 5-40 x .190 DP	6 x M3 x 0.5 x 4.8 DP	6 x 5-40 x .190 DP	6 x M3 x 0.5 x 4.8 DP
J10	.07893 x .118 DP	2.0 x 3.0 DP	.07893 x .118 DP	2.0 x 3.0 DP	.07893 x .118 DP	2.0 x 3.0 DP	.07893 x .118 DP	2.0 x 3.0 DP
K1	.594	15.1	.594	15.1	.656	16.7	.656	16.7
K2	.750	19.1	.750	19.1	1.000	25.4	1.000	25.4
K3	4 x 4-40 x .150 DP	4 x M3 x 0.5 x 3.8 DP	4 x 4-40 x .150 DP	4 x M3 x 0.5 x 3.8 DP	8 x 5-40 x .197 DP	8 x M3 x 0.5 x 5.0 DP	8 x 5-40 x .197 DP	8 x M3 x 0.5 x 5.0 DP
K4	.0947 x .157 DP	3.0 x 4.0 DP	.0947 x .157 DP	3.0 x 4.0 DP	.1259 x .157 DP	3.0 x 4.0 DP	.1259 x .157 DP	3.0 x 4.0 DP
K5	—	—	—	—	1.772	45.0	1.772	45.0
P1	10-32	M5 x 0.8	10-32	M5 x 0.8	10-32	M5 x 0.8	10-32	M5 x 0.8
P2	.675	17.1	.675	17.1	.778	19.8	.778	19.8
P3	.296	7.5	.433	11.0	.512	13.0	.689	17.5
P4	.354	9.0	.630	16.0	1.220	31.0	1.575	40.0

Designer's Resource myphd®

CAD & Sizing Assistance

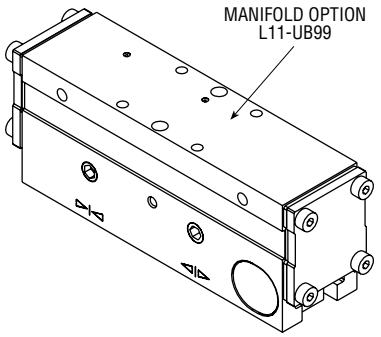
Use PHD's free online Product Sizing and CAD Configurator at www.phdinc.com/myphd

All dimensions are reference only unless specifically toleranced.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

L11-UB99 MANIFOLD OPTION IN LOCATION 99

This option configures the gripper for manifold mounting on the standard mounting surface. The standard ports are plugged. O-rings are provided for sealing between the gripper and the manifold.

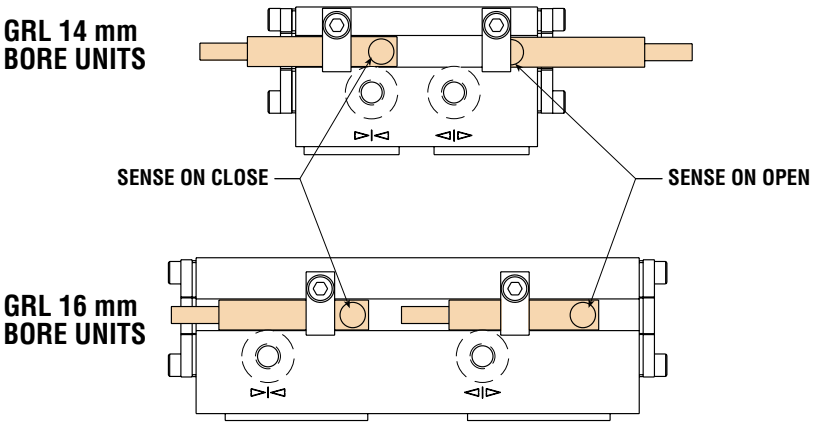


TYPE	MANIFOLD REPLACEMENT KIT NUMBER			
	GRLx2-x-14x7	GRLx2-x-14x13	GRLx2-x-16x20	GRLx2-x-16x26
IMPERIAL	68221-14-1-1	68221-14-1-1	68221-16-1-1	68221-16-1-1
METRIC	68221-14-5-1	68221-14-5-1	68221-16-5-1	68221-16-5-1

Manifold kit includes port plugs and o-rings.

E HALL SWITCH READY

The -E option is comprised of Hall Effect magnets installed in the pistons to actuate PHD 6 mm square Hall Effect Switches. PHD Hall Effect Switches and mounting kits are required in addition to the -E option and are sold separately.



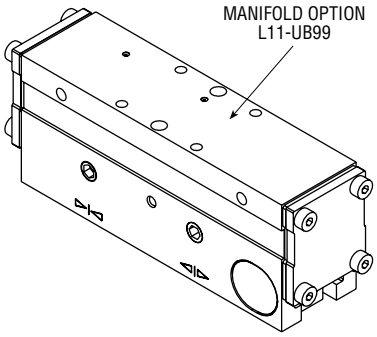
Options may affect unit length. See dimensional pages and option information details.

Refer to this product's online catalog in the product section for complete information including related dimensions and additional specifications. See link at bottom of this page.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

L11-UB99 MANIFOLD OPTION IN LOCATION 99

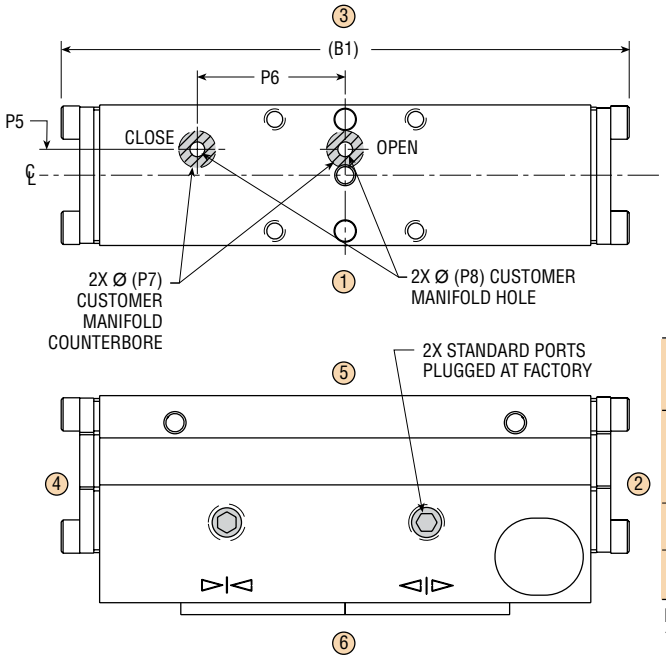
This option configures the gripper for manifold mounting on the standard mounting surface. The standard ports are plugged. O-rings are provided for sealing between the gripper and the manifold.

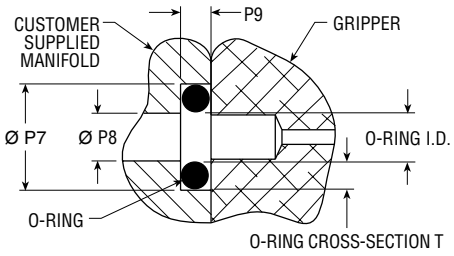


TYPE	MANIFOLD REPLACEMENT KIT NUMBER			
	GRLx2-x-14x7	GRLx2-x-14x13	GRLx2-x-16x20	GRLx2-x-16x26
IMPERIAL	68221-14-1-1	68221-14-1-1	68221-16-1-1	68221-16-1-1
METRIC	68221-14-5-1	68221-14-5-1	68221-16-5-1	68221-16-5-1

Manifold kit includes port plugs and o-rings.

MANIFOLD OPTION L11-UB99





MANIFOLD PORTING DIMENSIONS

FOR CUSTOMER USE
(DIMENSIONS REQUIRED
ON CUSTOMER MOUNTING SURFACE)

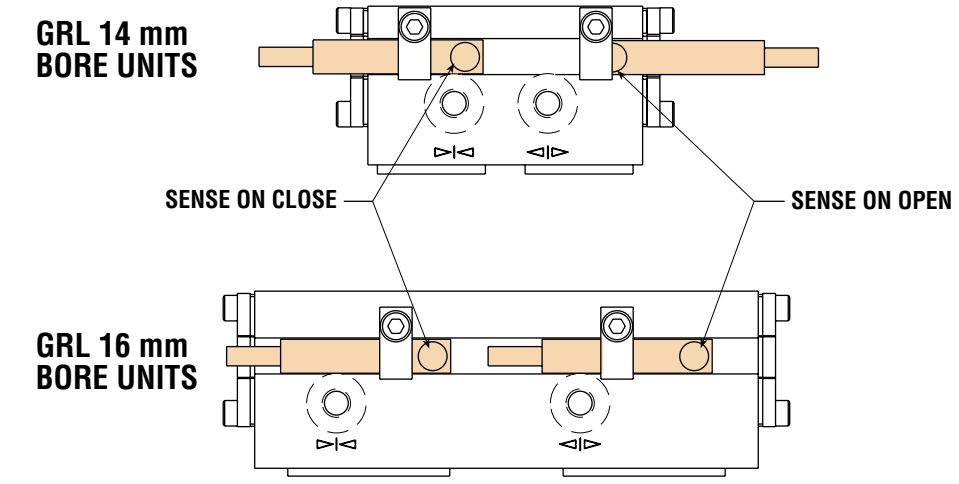
LETTER DIM	MODEL NUMBER							
	GRLx2-x-14x7		GRLx2-x-14x13		GRLx2-x-16x20		GRLx2-x-16x26	
	in	mm	in	mm	in	mm	in	mm
(B1)	2.316	58.8	3.022	76.8	3.905	99.2	4.614	117.2
P5	.138	3.5	.138	3.5	.157	4.0	.157	4.0
P6	.787	20.0	.787	20.0	1.378	35.0	1.378	35.0
P7	.197	5.0	.197	5.0	.197	5.0	.197	5.0
P7 O-RING (I.D. X T)	2 mm x 1.5 mm		2 mm x 1.5 mm		2 mm x 1.5 mm		2 mm x 1.5 mm	
P8	.078	2.0	.078	2.0	.078	2.0	.078	2.0
P9	.048	1.2	.048	1.2	.048	1.2	.048	1.2

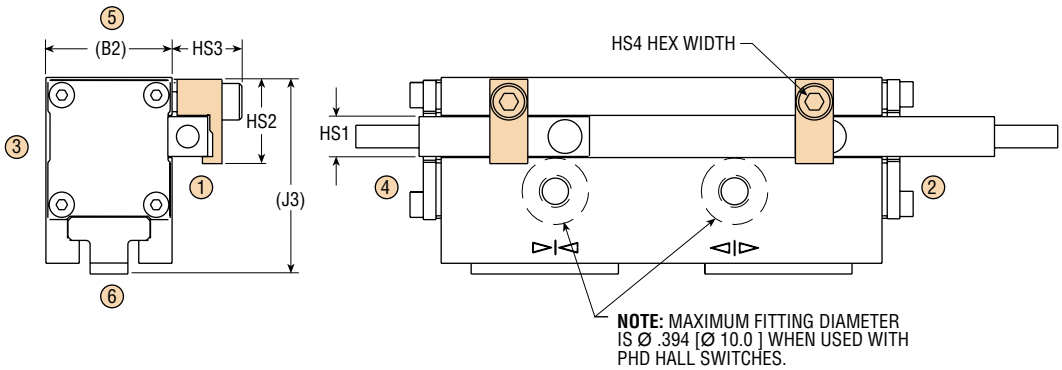
NOTES:
1) ALL DIMENSIONS ARE CENTERED ON CENTERLINE OF UNIT UNLESS OTHERWISE SPECIFIED.
2) CIRCLED NUMBERS INDICATE POSITIONS.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

E HALL SWITCH READY

The -E option is comprised of Hall Effect magnets installed in the pistons to actuate PHD 6 mm square Hall Effect Switches. PHD Hall Effect Switches and mounting kits are required in addition to the -E option and are sold separately. See charts below for switches and mountings.





-E HALL SWITCH READY

LETTER DIM	MODEL NUMBER GRLx2-x-14x7 in	mm	GRLx2-x-14x13 in	mm	GRLx2-x-16x20 in	mm	GRLx2-x-16x26 in	mm
(B2)	.748	19.0	.748	19.0	.874	22.2	.874	22.2
(J3)	1.162	29.5	1.162	29.5	1.281	32.5	1.281	32.5
HS1	6 mm SQUARE		6 mm SQUARE		6 mm SQUARE		6 mm SQUARE	
HS2	.511	13.0	.511	13.0	.611	15.5	.611	15.5
HS3	.420	10.7	.420	10.7	.420	10.7	.420	10.7
HS4 HEX	2.5 mm		2.5 mm		2.5 mm		2.5 mm	

6 mm SQUARE HALL EFFECT SWITCHES

PART NO.	COLOR	DESCRIPTION
55803-1-02	Yellow	NPN (Sink) 4.5-24 VDC, 2 meter cable
55804-1-02	Red	PNP (Source) 4.5-24 VDC, 2 meter cable
55823-1	Yellow	NPN (Sink) 4.5-24 VDC, Quick Connect
55824-1	Red	PNP (Source) 4.5-24 VDC, Quick Connect

HALL EFFECT SWITCH MOUNTING KIT

PART NO.	DESCRIPTION
68487-1	Switch Mounting Kit

Each mounting kit contains:
1 6 mm square switch bracket
1 mounting screw

All dimensions are reference only unless specifically toleranced.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP