

GENERAL PURPOSE
Rotary Union Solutions



GP Series

FLOW PASSAGE OPTIONS

2	3	4	6
8	10	12	



GP SERIES

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- 4** GP Series Overview
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About DSTI

Dynamic Sealing Technologies, Inc. (DSTI) is a global leader in rotary unions and swivel joints used to provide reliable fluid transfer and sealing for energy, defense and industrial applications.

Learn more at www.dsti.com

Did You Know?

» DSTI Exports Rotary Union Products to Over 50 Countries

What is a Rotary Union?

A rotary union (or swivel joint) is a mechanism used to transfer fluid (under pressure or vacuum) from a stationary inlet to a rotating outlet, preserving and isolating the fluid connection.

Rotary unions are engineered to endure a wide range of temperatures and pressures for a variety of conditions and environments. In addition, rotary unions may integrate multiple passages and handle different types of fluid simultaneously.

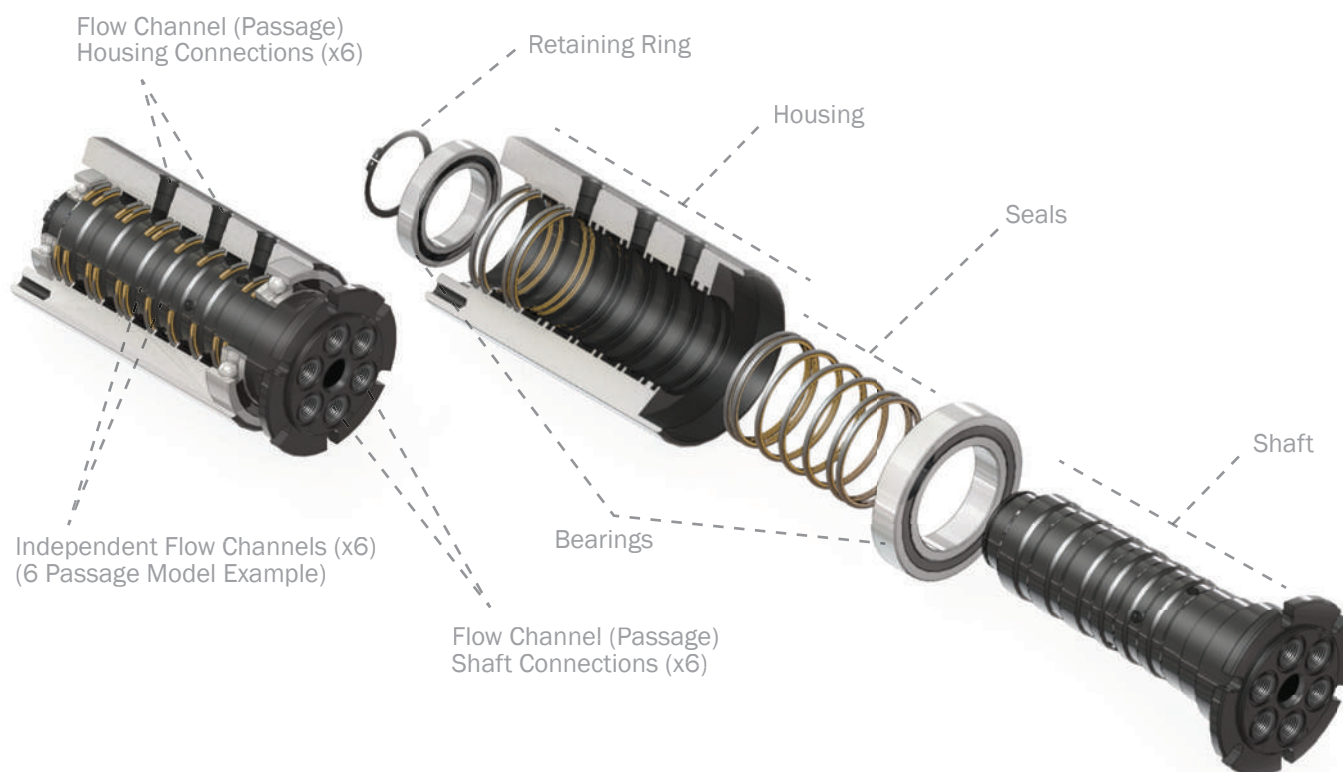
See examples at www.dsti.com/industries

How do I choose the best rotary union for my application?

Tell us about your requirements so we can make a recommendation:

- 1) Type of media(s) / fluid(s) to be transferred
- 2) Number of independent flow channels (passages)
- 3) Operating pressure
- 4) Operating temperature
- 5) Operating speed
- 6) Shaft & housing connection type
- 7) Flow channel (passage) size
- 8) Torque & load requirements
- 9) Duty cycle*

**Does the temperature, speed or pressure fluctuate or change during operation? If so, please provide the detailed ranges for each parameter and time durations of each condition.*



GP SERIES

GP Series Overview

- + General Purpose
- + NPT / BSPP / O-Ring Connection Options
- + Available in Stainless Steel
- + Exclusive DynaSeal™ Seals
- + Reliable Usage With Dissimilar Medias
- + Customized Options

ON THE WEB

Download STEP, DWG, and PDF resources.
View interactive 3D models and more!

Learn more at www.dsti.com



How to Order: Create your Part Number

EXAMPLE

GPM — **2** **2** **1** — **OF** — **ES12** — **C1**

0 No Thru-bore¹
1 With Thru-bore¹

2 2 Flow Passages
3 3 Flow Passages
4 4 Flow Passages
6 6 Flow Passages
8 8 Flow Passages
01-10 10 Flow Passages
01-12 12 Flow Passages

1 1/8" (3.175 mm) Passage Size
2 1/4" (6.350 mm) Passage Size
3 3/8" (9.525 mm) Passage Size
4 1/2" (12.70 mm) Passage Size
5 3/4" (19.05 mm) Passage Size
6 1" (25.40 mm) Passage Size

GP GP Series (NPT² Connection)
GPM GP Series (BSPP³ Connection)
GPS GP Series Stainless Steel (NPT² Connection)
GPSM GP Series Stainless Steel (BSPP³ Connection)

OPTIONS See Next Page

EXAMPLES

GP-240
 ■ GP 4 Passage, 1/4" NPT Connections

GPM-341
 ■ GP 4 Passage with thru-bore, 3/8" BSPP Connections

GPSM-301-10
 ■ GP 10 Passage with thru-bore, 3/8" BSPP Connections (Stainless Steel)

NOTE Thru-bore standard on all 10 and 12 flow passage models

Shaft O-ring face seal connection standard on all GP models excluding the 10 or 12 flow passage models and BSPP models. For a shaft O-ring face seal connection on a 10 or 12 passage model, please call out the "OF" option when naming the part number.

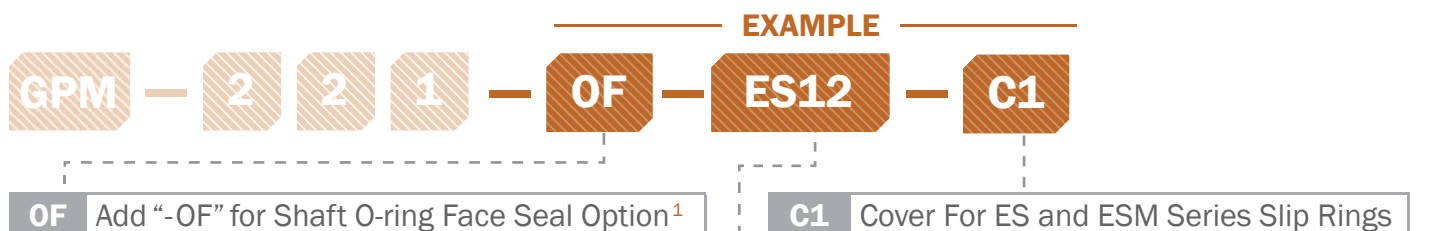
¹ This digit not used in naming convention of 10 or 12 flow passage models.

² NPT with O-ring shaft connection.

³ O-ring not available for metric connections.

GP SERIES

How to Order: Choose your Options



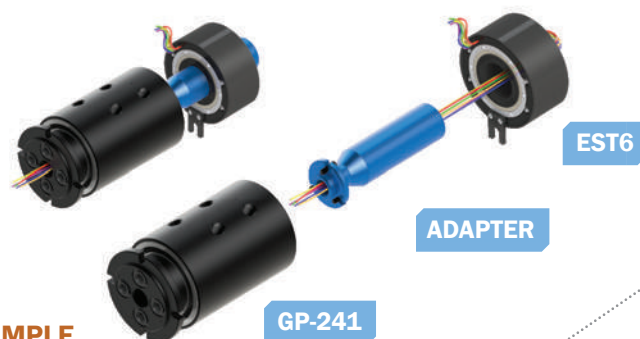
Omit “-OF” for all GP models except for GP 10 & 12 passage.

Optional Electrical Slip Rings²

(see Electrical Slip Ring Options on page 25 for full specifications)

ES6A	6 Circuit, 120 Volts
ES12A	12 Circuit, 120 Volts
ESx	6 - 56 Circuits 210 Volts
ESEx	8 - 51 Circuits 240 Volts Ethernet
ESMx	9 - 52 Circuits 120/210 Volts
ESTx	6 - 24 Circuits 600 Volts
ESETx	4 - 22 Circuits 600 Volts Ethernet

NOTE Only available for GP-1x1 models



EXAMPLE

GP-241-EST6

GP 4 Passage model with thru-bore, 1/4" NPT connections with a EST6 electrical slip ring.

NOTE Not available for GP-1x1 models



EXAMPLE

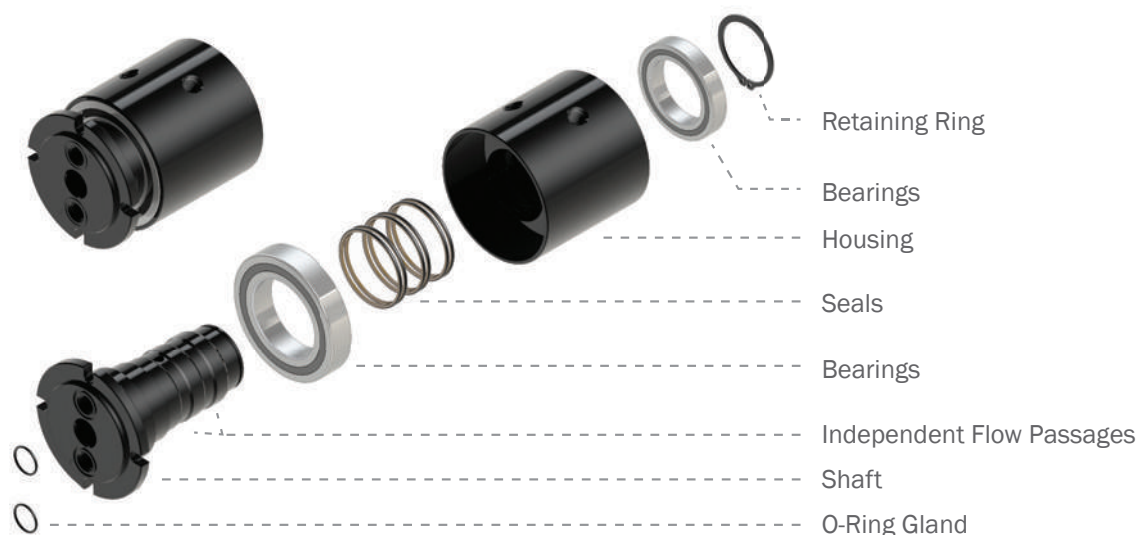
GPM-201-10-OF-ESM36-C1

GP 10 Passage with thru-bore, 1/4" BSPP connections with a shaft O-Ring face seal option and an ES6 electrical slip ring with cover.

¹ "-OF" option is only available on GP 10 & 12 passage models.

² Pin connector and cord set options also available. Please contact DSTI for more information.

Specifications & Operating Information



Flow Passage Options	2	3	4	6	8	10	12
Media Types	Coolant, Gases, Oil, Steam ¹ , Water ¹						
Passage Sizes	1/8", 1/4", 3/8", 1/2", 3/4", 1" (3.18 mm, 6.35 mm, 9.53 mm, 12.7 mm, 19.1 mm, 25.4 mm)						
Connection Type	NPT, BSPP, O-Ring						
Max. Operating Pressure	7500 PSI (515 BAR) ²						
Max. Vacuum	30 HG ²						
Max. Rotational Speed	500 RPM ²						
Operating Temperature	0° F to 220° F (-18° C to 105° C) ³						
Body Material Type	Carbon Steel, Stainless Steel						
Platings and Coatings	Black Oxide, Thin Dense Chrome						
Slip Ring Options	See page 25						
Mounting Options	Tapped holes on housing end / Slotted flange or tapped holes at shaft end						

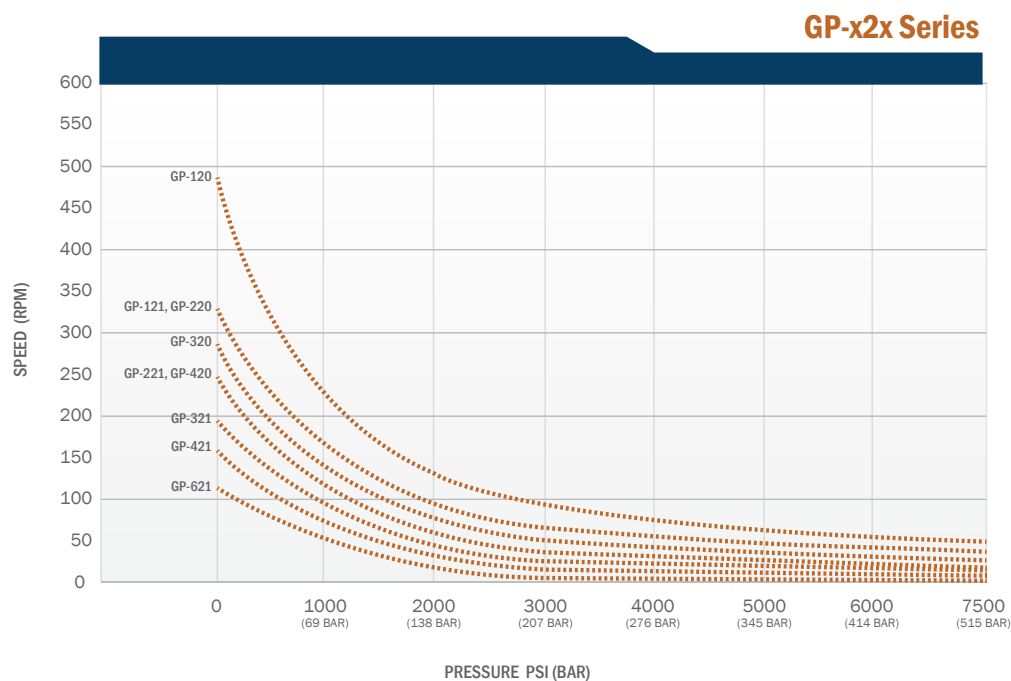
¹ Stainless steel recommended for all water/steam applications.

² Values are dependent on a combination of all application parameters. Please consult with DSTI.

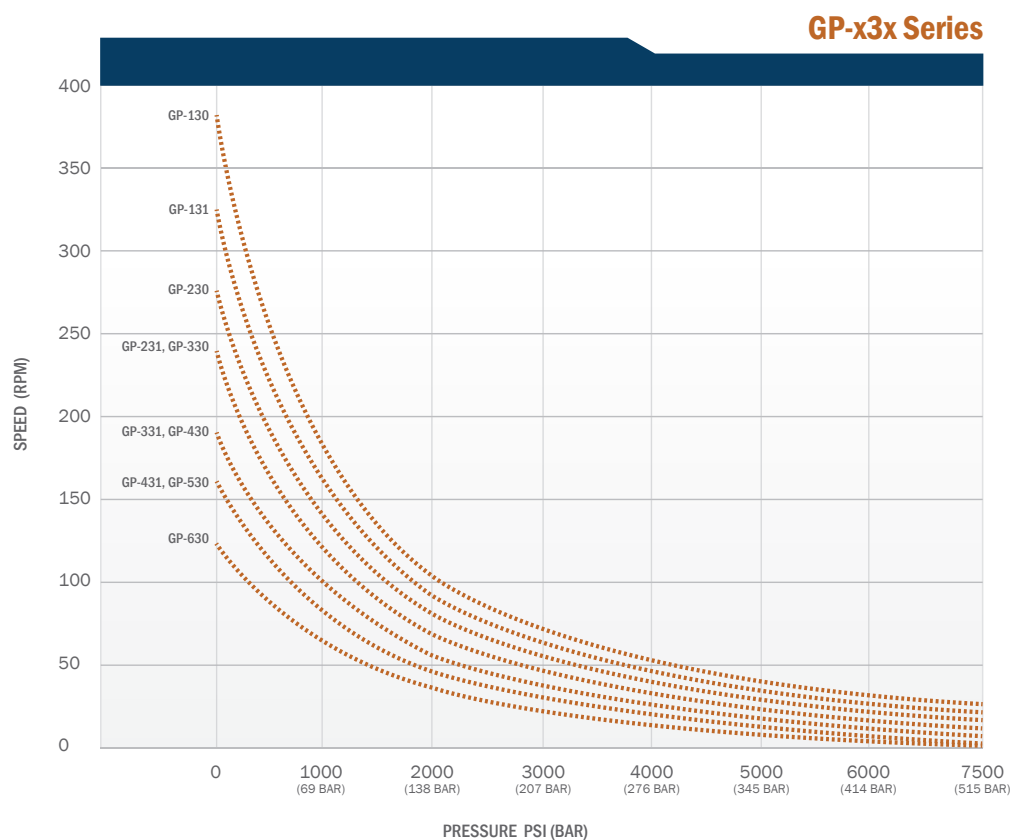
³ High temperature applications may require alternative seal materials. Please consult with DSTI.

GP SERIES

Performance Data: Pressure vs. Speed (Continuous)

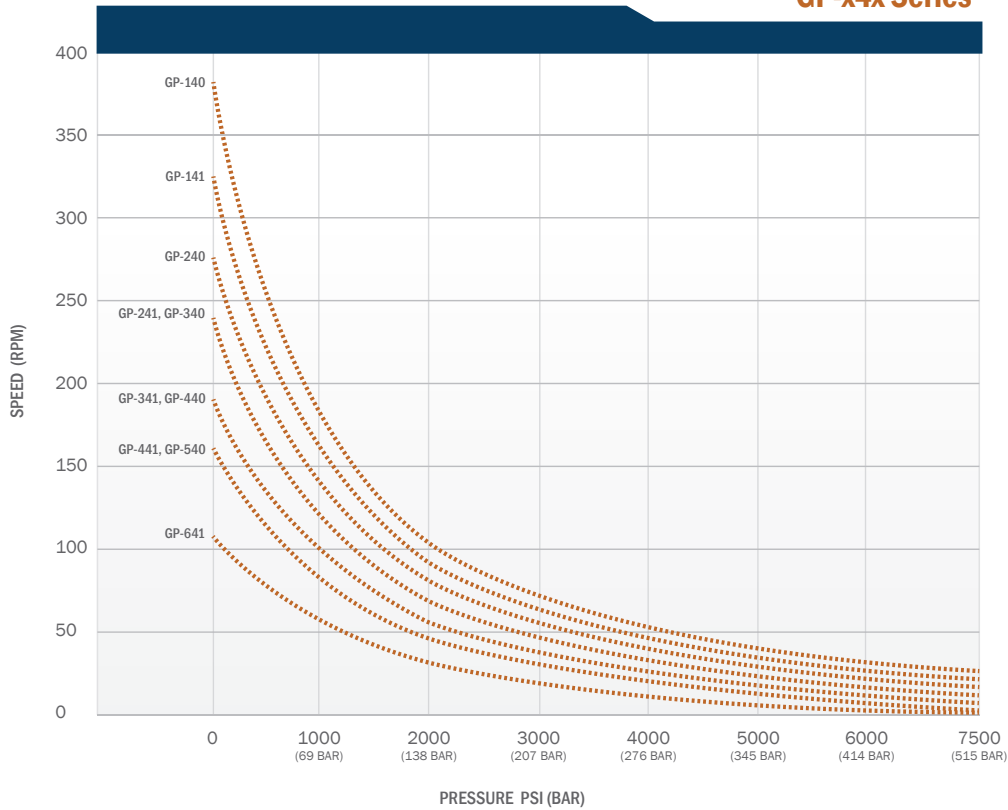


* This data is to be used as a general guideline. Data based on hydraulic fluid as the media type. Please consult DSTI about your specific application.



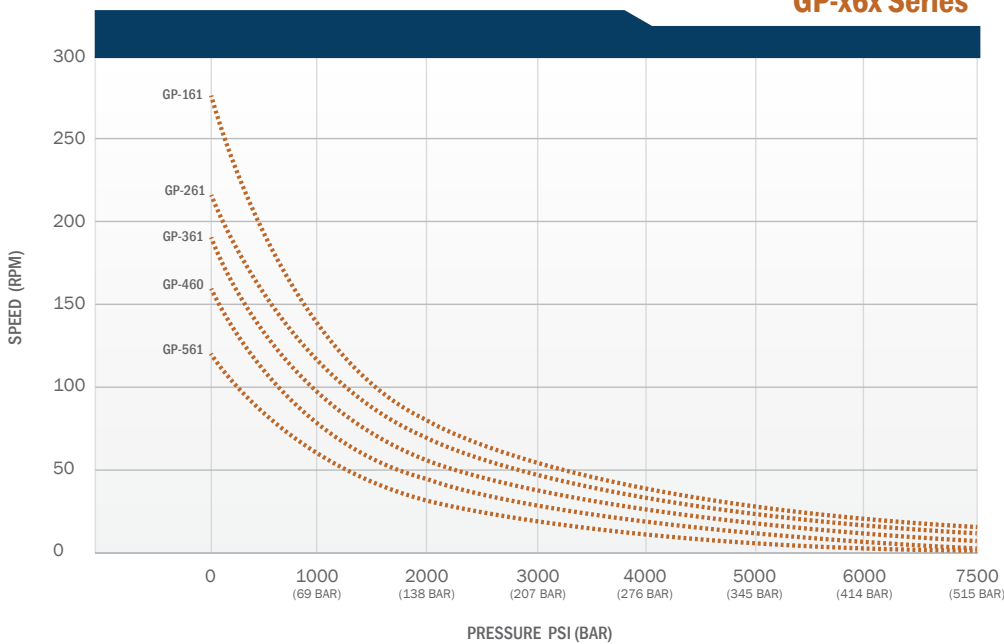
* This data is to be used as a general guideline. Data based on hydraulic fluid as the media type. Please consult DSTI about your specific application.

GP-x4x Series



* This data is to be used as a general guideline. Data based on hydraulic fluid as the media type. Please consult DSTI about your specific application.

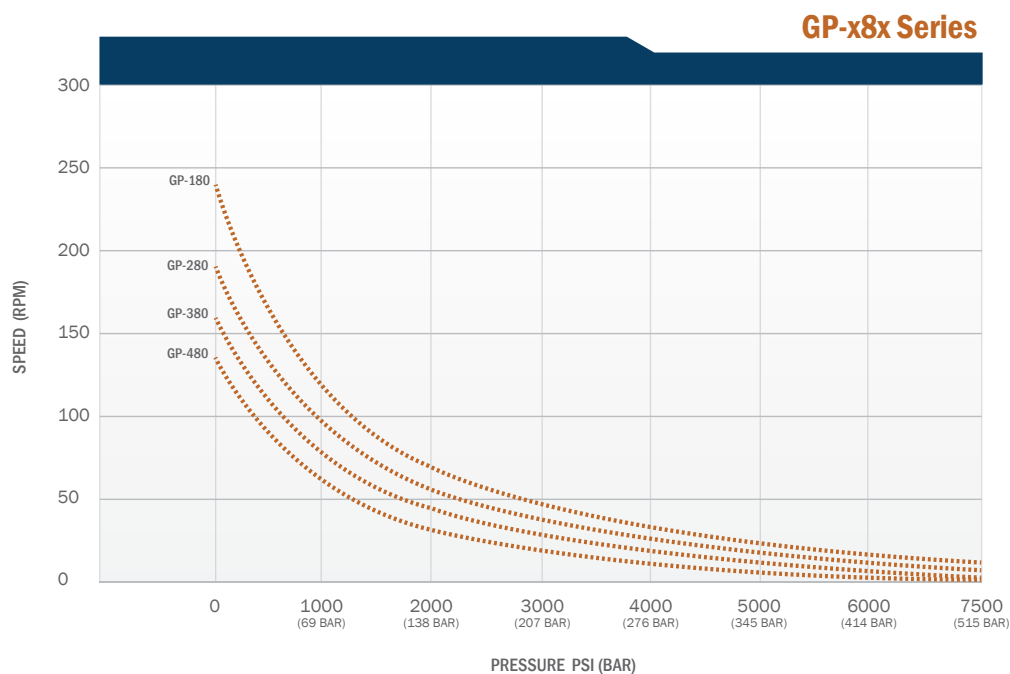
GP-x6x Series



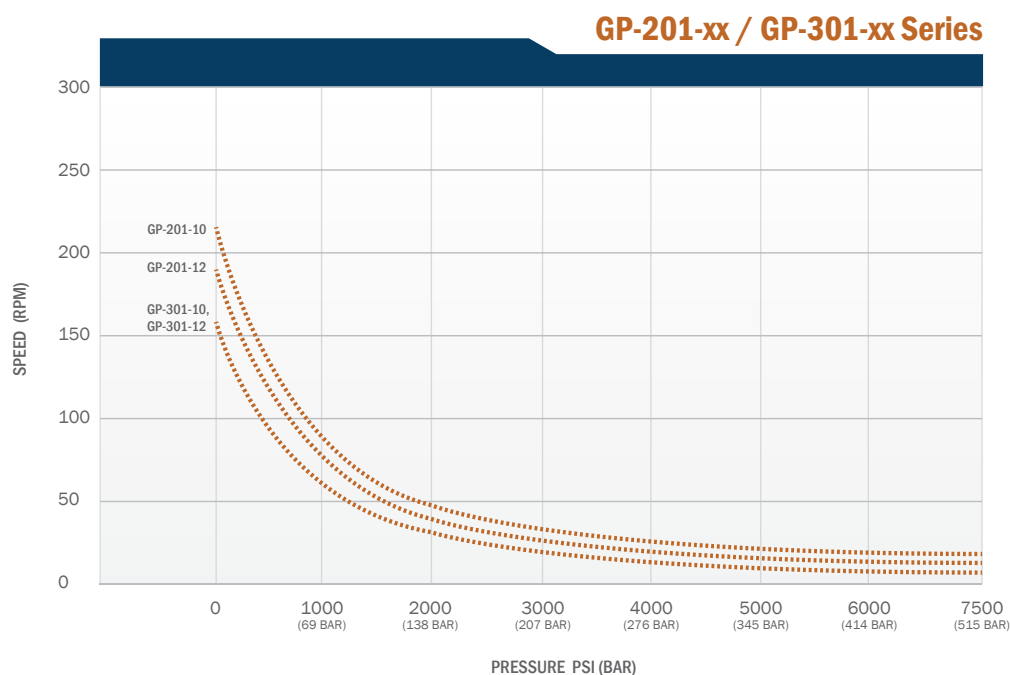
* This data is to be used as a general guideline. Data based on hydraulic fluid as the media type. Please consult DSTI about your specific application.

GP SERIES

Performance Data: Pressure vs. Speed (Continuous)



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Performance Data: Pressure vs. Torque

PRESSURE PSI (BAR)

MODEL	0	1000 (69 BAR)	2000 (138 BAR)	3000 (207 BAR)	4000 (276 BAR)	5000 (345 BAR)	6000 (414 BAR)	7500 (515 BAR)
GP-120	0.5 [0.7]	1.3 [1.8]	2.1 [2.8]	2.8 [3.8]	3.6 [4.9]	4.3 [5.8]	5.1 [6.9]	6.3 [8.5]
GP-121	1.9 [2.6]	3.7 [5.0]	5.4 [7.3]	7.1 [9.6]	8.8 [11.9]	10.5 [14.2]	12.3 [16.7]	14.9 [20.2]
GP-220	3.9 [5.3]	7.3 [9.9]	10.7 [14.5]	14.2 [19.3]	17.6 [23.9]	21.1 [28.6]	24.5 [33.2]	29.7 [40.3]
GP-221	5.7 [7.7]	11.8 [16.0]	17.9 [24.3]	24.1 [32.7]	30.2 [40.9]	36.3 [49.2]	42.5 [57.6]	51.6 [70.0]
GP-320	4.0 [5.4]	8.7 [11.8]	13.4 [18.2]	18.0 [24.4]	22.7 [30.8]	27.4 [37.1]	32.1 [43.5]	39.2 [53.1]
GP-321	7.1 [9.6]	21.6 [29.3]	36.1 [48.9]	50.6 [68.6]	65.1 [88.3]	79.5 [107.8]	94.1 [127.6]	115.7 [156.9]
GP-420	5.7 [7.7]	11.8 [16.0]	17.9 [24.3]	24.1 [32.7]	30.2 [40.9]	36.3 [49.2]	42.5 [57.6]	51.6 [70.0]
GP-421	12.2 [16.5]	33.0 [44.7]	53.9 [73.1]	74.7 [101.3]	95.6 [129.6]	116.4 [157.8]	137.3 [186.2]	168.6 [228.6]
GP-621	24.4 [33.1]	71.3 [96.7]	118.2 [160.3]	165.2 [223.0]	212.1 [287.6]	259.0 [351.2]	305.9 [414.7]	376.3 [510.2]
GP-130	1.5 [2.0]	3.1 [4.2]	4.7 [6.4]	6.3 [8.5]	7.9 [10.7]	9.5 [12.9]	11.1 [15.0]	13.5 [18.3]
GP-131	2.6 [3.5]	4.9 [6.6]	7.2 [9.8]	9.5 [12.9]	11.8 [16.0]	14.1 [19.1]	16.4 [22.2]	19.8 [26.8]
GP-230	5.3 [7.2]	11.6 [15.7]	17.8 [24.1]	24.1 [32.7]	30.3 [41.1]	36.6 [49.6]	42.8 [58.0]	52.2 [70.8]
GP-231	7.6 [10.3]	15.8 [21.4]	23.9 [32.4]	32.1 [43.5]	40.3 [54.6]	48.4 [65.6]	56.6 [76.7]	68.9 [93.4]
GP-330	7.6 [10.3]	15.8 [21.4]	23.9 [32.4]	32.1 [43.5]	40.3 [54.6]	48.4 [65.6]	56.6 [76.7]	68.9 [93.4]
GP-331	9.5 [12.9]	28.8 [39.0]	48.1 [65.4]	67.4 [91.4]	86.7 [117.4]	106.0 [143.7]	125.4 [170.0]	154.3 [209.2]
GP-430	9.5 [12.9]	28.8 [39.0]	48.1 [65.4]	67.4 [91.4]	86.7 [117.4]	106.0 [143.7]	125.4 [170.0]	154.3 [209.2]
GP-431	16.2 [21.3]	44.0 [59.7]	71.8 [97.3]	99.6 [135.0]	127.4 [172.7]	155.2 [210.4]	183.1 [248.3]	224.8 [304.8]
GP-530	16.2 [21.3]	44.0 [59.7]	71.8 [97.3]	99.6 [135.0]	127.4 [172.7]	155.2 [210.4]	183.1 [248.3]	224.8 [304.8]
GP-630	24.7 [33.5]	74.2 [100.6]	123.6 [167.6]	173.0 [234.6]	222.5 [301.7]	271.9 [368.6]	321.3 [435.6]	395.5 [536.2]
GP-140	1.9 [2.6]	3.9 [5.3]	5.9 [8.0]	7.9 [10.7]	9.9 [13.4]	11.9 [16.1]	13.9 [18.8]	16.9 [22.9]
GP-141	3.2 [4.3]	6.1 [8.27]	9.0 [12.2]	11.8 [16.0]	14.7 [19.9]	17.6 [23.9]	20.4 [27.7]	24.8 [33.6]
GP-240	6.6 [8.9]	14.4 [19.5]	22.3 [30.2]	30.1 [40.8]	37.9 [51.4]	45.7 [62.0]	53.5 [72.5]	65.3 [88.5]
GP-241	9.5 [12.9]	19.7 [26.7]	29.9 [40.5]	40.1 [54.4]	50.3 [68.2]	60.5 [82.0]	70.8 [96.0]	86.1 [116.7]
GP-340	9.5 [12.9]	19.7 [26.7]	29.9 [40.5]	40.1 [54.4]	50.3 [68.2]	60.5 [82.0]	70.8 [96.0]	86.1 [116.7]
GP-341	11.9 [16.1]	36.0 [48.8]	60.2 [81.6]	84.3 [114.3]	108.4 [147.0]	132.6 [179.8]	156.7 [212.5]	192.9 [261.5]
GP-440	11.9 [16.1]	36.0 [48.8]	60.2 [81.6]	84.3 [114.3]	108.4 [147.0]	132.6 [179.8]	156.7 [212.5]	192.9 [261.5]
GP-441	20.3 [27.5]	55.0 [74.6]	89.8 [121.8]	124.6 [168.9]	159.3 [216.0]	194.1 [263.2]	228.8 [310.2]	280.9 [380.8]
GP-540	20.3 [27.5]	55.0 [74.6]	89.8 [121.8]	124.6 [168.9]	159.3 [216.0]	194.1 [263.2]	228.8 [310.2]	280.9 [380.8]
GP-641	40.7 [55.2]	118.9 [161.2]	197.1 [267.2]	275.3 [373.3]	353.5 [479.3]	431.7 [585.3]	509.9 [691.3]	627.1 [850.2]

PRESSURIZED TORQUE (POUND FOOT [NEWTON METER])

* This data is to be used as a general guideline. Please consult DSTI about your specific application.
Torque data based on all passages (ports) pressurized.

GP SERIES

Performance Data: Pressure vs. Torque

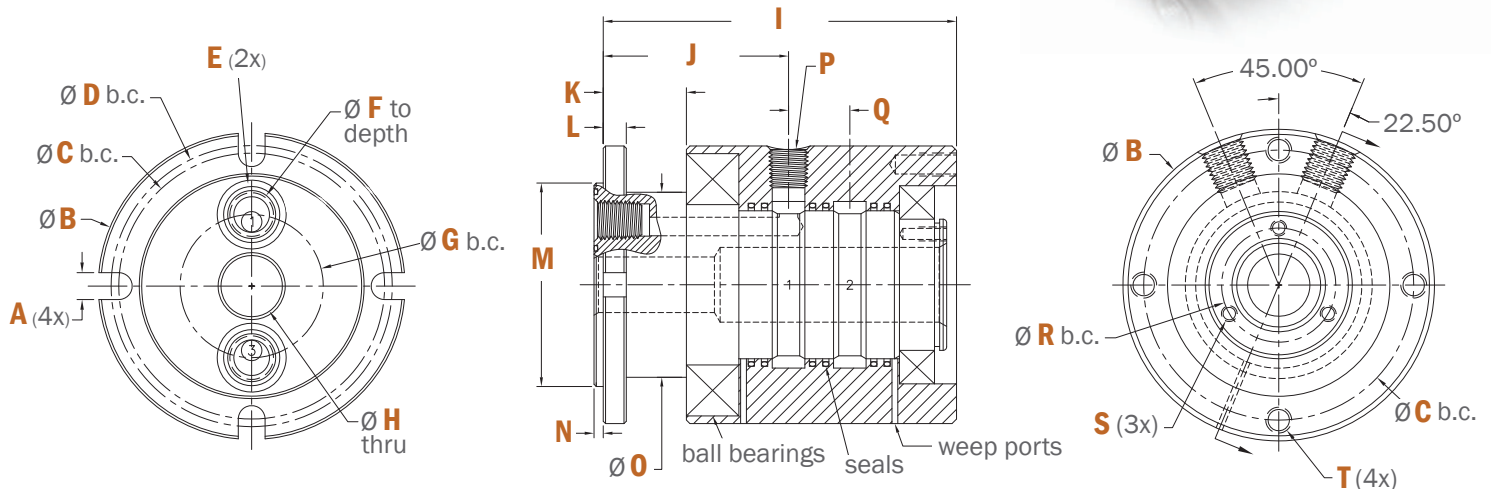
PRESSURE PSI (BAR)

MODEL	0	1000 (69 BAR)	2000 (138 BAR)	3000 (207 BAR)	4000 (276 BAR)	5000 (345 BAR)	6000 (414 BAR)	7500 (515 BAR)
GP-161	6.0 [8.13]	13.0 [17.6]	20.0 [27.1]	27.1 [36.7]	34.1 [46.2]	41.1 [55.7]	48.2 [65.4]	58.7 [79.6]
GP-261	9.8 [13.3]	31.3 [42.4]	52.8 [71.6]	74.3 [100.7]	95.8 [129.9]	117.3 [159.0]	138.8 [188.2]	171.0 [231.8]
GP-361	13.1 [17.8]	39.6 [53.7]	66.2 [89.8]	92.7 [125.7]	119.3 [161.7]	145.8 [197.7]	172.4 [233.7]	212.2 [287.7]
GP-460	22.3 [30.2]	60.5 [82.0]	98.8 [134.0]	137.0 [185.7]	175.2 [237.5]	213.5 [289.5]	251.7 [341.3]	309.0 [418.9]
GP-561	43.3 [58.7]	129.8 [176.0]	216.3 [293.3]	302.8 [410.5]	389.3 [527.8]	475.8 [645.1]	562.3 [762.4]	692.0 [938.2]
GP-180	10.4 [14.1]	21.7 [29.4]	32.9 [44.6]	44.1 [59.8]	55.4 [75.1]	66.6 [90.3]	77.8 [105.5]	94.7 [128.4]
GP-280	15.4 [20.9]	46.8 [63.5]	78.2 [106.0]	109.6 [148.6]	140.9 [191.0]	172.3 [233.6]	203.7 [276.2]	250.8 [340.0]
GP-380	26.4 [35.8]	71.6 [97.1]	116.7 [158.2]	161.9 [219.5]	207.1 [280.8]	252.3 [342.1]	297.5 [403.4]	365.2 [495.1]
GP-480	32.5 [44.1]	94.0 [127.4]	155.5 [210.8]	217.0 [294.2]	278.5 [377.6]	340.0 [461.0]	401.5 [544.4]	493.7 [669.4]
GP-201-	14.7 [19.9]	38.5 [52.2]	62.3 [84.5]	86.1 [116.7]	109.9 [149.0]	133.7 [181.3]	157.5 [213.5]	193.2 [262.0]
GP-301-	23.3 [31.6]	66.8 [90.6]	110.2 [149.4]	153.7 [208.4]	197.1 [267.2]	240.5 [326.1]	284.0 [385.1]	327.4 [443.9]
GP-201-	19.2 [26.3]	50.1 [67.9]	81.1 [110.0]	112.0 [151.9]	142.9 [193.7]	173.8 [235.6]	204.7 [277.5]	251.1 [340.4]
GP-301-	26.2 [35.5]	75.1 [101.8]	124.0 [168.1]	172.9 [234.4]	221.7 [300.6]	270.6 [366.9]	319.5 [433.2]	392.8 [532.6]

PRESSURIZED TORQUE
(POUND FOOT [NEWTON METER])

* This data is to be used as a general guideline. Please consult DSTI about your specific application.
Torque data based on all passages (ports) pressurized.

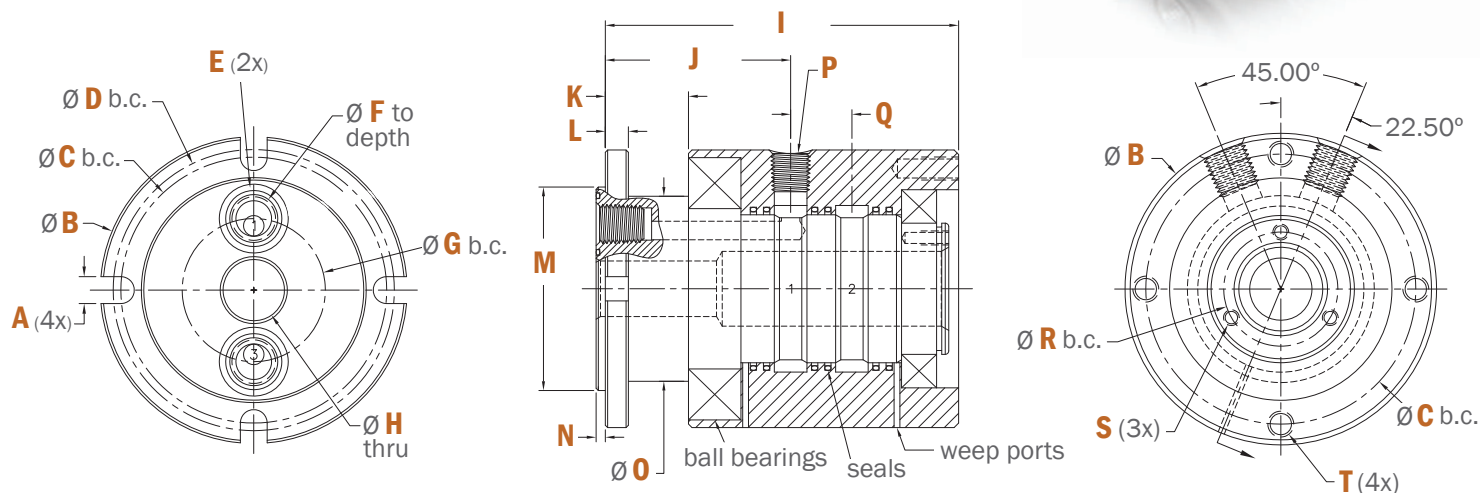
GP 2 Flow Passage: Dimensions



	GP-120 [GPM-120]	GP-121 [GPM-121]	GP-220 [GPM-220]	GP-221 [GPM-221]	GP-320 [GPM-320]
A	0.203" [5.5mm]	0.281" [7.14mm]	0.281" [7.14mm]	0.344" [9.00mm]	0.281" [7.14mm]
B	2.437" [61.90mm]	2.937" [74.60mm]	2.937" [74.60mm]	3.750" [95.25mm]	3.187" [80.95mm]
C	2.000" [50.80mm]	2.500" [63.50mm]	2.500" [63.50mm]	3.250" [82.55mm]	2.750" [69.85mm]
D	2.250" [57.15mm]	2.750" [69.85mm]	2.687" [68.25mm]	3.437" [87.30mm]	2.937" [74.60mm]
E	2-014 O-Ring [12.42mm]	2-015 O-Ring [14.00mm]	2-017 O-Ring [17.17mm]	2-017 O-Ring [17.17mm]	2-019 O-Ring [20.35mm]
F	0.16" [4.0mm]	0.160" [4.0mm]	0.250" [6.4mm]	0.250" [6.4mm]	0.380" [9.5mm]
G	.812" [20.62mm]	1.312" [33.32mm]	1.000" [25.40mm]	1.750" [44.45mm]	1.187" [30.15mm]
H	N/A	0.500" [12.70mm]	N/A	0.750" [19.05mm]	N/A
I	3.35" [85.0mm]	3.64" [92.4mm]	4.37" [111.1mm]	4.77" [121.2mm]	4.71" [119.5mm]
J	1.83" [46.5mm]	2.03" [51.6mm]	2.26" [57.5mm]	2.50" [63.6mm]	2.36" [60.0mm]
K	0.88" [22.2mm]	1.00" [25.4mm]	1.00" [25.4mm]	1.12" [28.5mm]	1.00" [25.4mm]
L	0.250" [6.35mm]	0.250" [6.35mm]	0.250" [6.35mm]	0.312" [7.92mm]	0.250" [6.35mm]
M	1.625" [41.28mm]	2.187" [55.55mm]	2.000" [50.80mm]	2.750" [69.85mm]	2.375" [60.33mm]
N	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]
O	1.54" [39.0mm]	1.81" [45.97mm]	1.94" [49.27mm]	2.50" [63.50mm]	2.25" [57.15mm]
P	1/8"-27 NPT [G1/8"-28 BSPP]	1/8"-27 NPT [G1/8"-28 BSPP]	1/4"-18 NPT [G1/4"-19 BSPP]	1/4"-18 NPT [G1/4"-19 BSPP]	3/8"-18 NPT [G3/8"-19 BSPP]
Q	0.549" [13.94mm]	0.549" [13.94mm]	0.828" [21.03mm]	0.828" [21.03mm]	0.950" [24.13mm]
R	N/A	0.730" [18.54mm]	N/A	1.374" [34.90mm]	N/A
S	N/A	#4-40 [M3x0.5]	N/A	#10-24 [M5x0.8]	N/A
T	#10-24 UNC [M5x0.8]	1/4"-20 [M6x1.0]	1/4"-20 [M6x1.0]	5/16"-18 [M8x1.25]	1/4"-20 [M6x1.0]

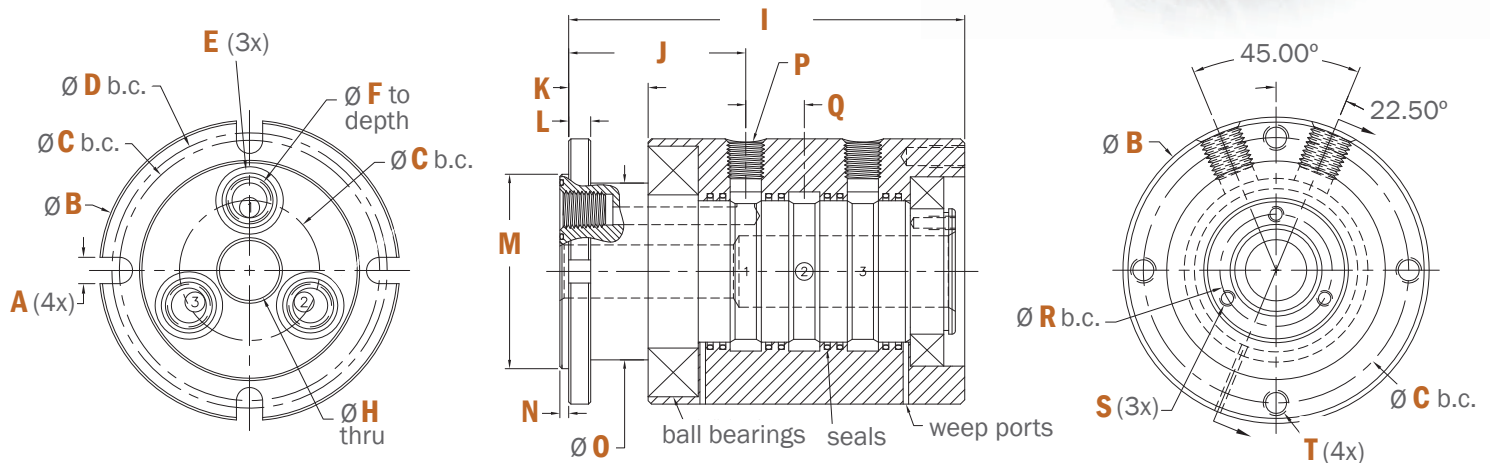
GP SERIES

GP 2 Flow Passage: Dimensions



	GP-321 [GPM-321]	GP-420 [GPM-420]	GP-421 [GPM-421]	GP-621 [GPM-621]
A	0.344" [9.00mm]	0.344" [9.00mm]	0.344" [9.00mm]	0.531" [13.49mm]
B	4.187" [106.35mm]	3.875" [98.43mm]	4.937" [125.40mm]	7.187" [182.55mm]
C	3.500" [88.90mm]	3.188" [80.98mm]	4.125" [104.78mm]	6.250" [158.75mm]
D	3.875" [98.43mm]	3.500" [88.90mm]	4.625" [117.48mm]	6.750" [171.45mm]
E	2-019 O-Ring [20.35mm]	2-023 O-Ring [26.70mm]	2-023 O-Ring [26.70mm]	2-128 O-Ring [37.77mm]
F	0.375" [9.53mm]	0.500" [12.70mm]	0.500" [12.70mm]	1.000" [25.40mm]
G	1.875" [47.63mm]	1.437" [36.50mm]	2.250" [57.15mm]	3.000" [76.20mm]
H	0.750" [19.05mm]	N/A	0.750" [19.05mm]	1.000" [25.40mm]
I	5.31" [134.9mm]	5.39" [137.0mm]	6.16" [156.4mm]	8.60" [218.4mm]
J	2.65" [67.2mm]	2.71" [68.7mm]	3.15" [79.9mm]	4.37" [111.1mm]
K	1.12" [28.5mm]	1.19" [30.1mm]	1.63" [41.3mm]	1.63" [41.3mm]
L	0.312" [7.92mm]	0.312" [7.92mm]	0.375" [9.53mm]	0.625" [15.88mm]
M	3.000" [76.20mm]	2.750" [69.85mm]	3.625" [92.08mm]	5.000" [127.00mm]
N	0.125" [3.18mm]	0.125" [3.18mm]	0.187" [4.75mm]	0.187" [4.75mm]
O	2.84" [3.18mm]	2.58" [65.53mm]	3.50" [88.90mm]	5.25" [133.35mm]
P	3/8"-18 NPT [G3/8"-19 BSPP]	1/2"-14 NPT [G1/2"-14 BSPP]	1/2"-14 NPT [G1/2"-14 BSPP]	1"-11.5 NPT [G1"-11 BSPP]
Q	1.030" [26.16mm]	1.106" [28.09mm]	1.186" [30.12mm]	1.794" [45.57mm]
R	1.374" [34.90mm]	N/A	1.374" [34.90mm]	1.374" [34.90mm]
S	#10-24 [M5x0.8]	N/A	#10-24 [M5x0.8]	#10-24 [M5x0.8]
T	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	1/2"-13 [M12x1.75]

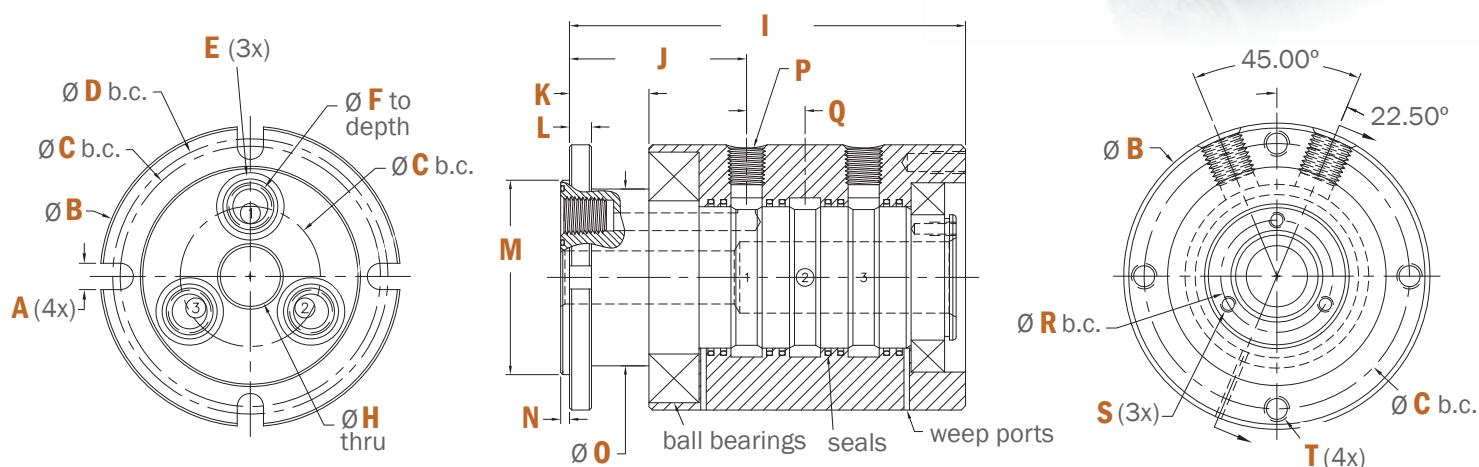
GP 3 Flow Passage: Dimensions



	GP-130 [GPM-130]	GP-131 [GPM-131]	GP-230 [GPM-230]	GP-231 [GPM-231]	GP-330 [GPM-330]
A	0.281" [7.14mm]	0.281" [7.14mm]	0.281" [7.14mm]	0.344" [9.00mm]	0.344" [9.00mm]
B	2.688" [68.28mm]	2.937" [74.60mm]	3.187" [80.95mm]	3.750" [95.25mm]	3.875" [98.43mm]
C	2.125" [53.98mm]	2.375" [60.33mm]	2.750" [69.85mm]	3.250" [82.55mm]	3.250" [82.55mm]
D	2.500" [63.50mm]	2.750" [69.85mm]	2.937" [74.60mm]	3.437" [87.30mm]	3.562" [90.47mm]
E	2-015 O-Ring [14.00mm]	2-015 O-Ring [14.00mm]	2-017 O-Ring [17.17mm]	2-017 O-Ring [17.17mm]	2-019 O-Ring [20.35mm]
F	.156" [3.96mm]	.156" [3.96mm]	.250" [6.40mm]	.250" [6.40mm]	.375" [9.53mm]
G	1.000" [25.40mm]	1.312" [33.32mm]	1.250" [31.75mm]	1.750" [44.45mm]	1.375" [34.93mm]
H	N/A	0.500" [12.70mm]	N/A	0.750" [19.05mm]	N/A
I	4.15" [105.3mm]	4.19" [106.3mm]	5.29" [134.4mm]	5.60" [142.3mm]	6.03" [153.2mm]
J	1.99" [50.6mm]	2.03" [51.6mm]	2.30" [58.4mm]	2.50" [63.6mm]	2.63" [66.8mm]
K	1.00" [25.4mm]	1.00" [25.4mm]	1.00" [25.4mm]	1.12" [28.5mm]	1.19" [30.1mm]
L	0.250" [6.35mm]	0.250" [6.35mm]	0.250" [6.35mm]	0.312" [7.92mm]	0.312" [7.92mm]
M	1.875" [47.63mm]	2.187" [55.55mm]	2.375" [60.33mm]	2.750" [69.85mm]	2.625" [66.68mm]
N	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]
O	1.75" [44.5mm]	1.81" [46.0mm]	2.25" [57.2mm]	2.50" [63.5mm]	2.576" [65.4mm]
P	1/8"-27 NPT [G1/8"-28 BSPP]	1/8"-27 NPT [G1/8"-28 BSPP]	1/4"-18 NPT [G1/4"-19 BSPP]	1/4"-18 NPT [G1/4"-19 BSPP]	3/8"-18 NPT [G3/8"-19 BSPP]
Q	0.549" [13.94mm]	0.549" [13.94mm]	0.828" [21.03mm]	0.828" [21.03mm]	0.950" [24.13mm]
R	N/A	0.730" [18.54mm]	N/A	1.374" [34.90mm]	N/A
S	N/A	#4-40 [M3x0.5]	N/A	#10-24 [M5x0.8]	N/A
T	1/4"-20 [M6x1.0]	1/4"-20 [M6x1.0]	1/4"-20 [M6x1.0]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]

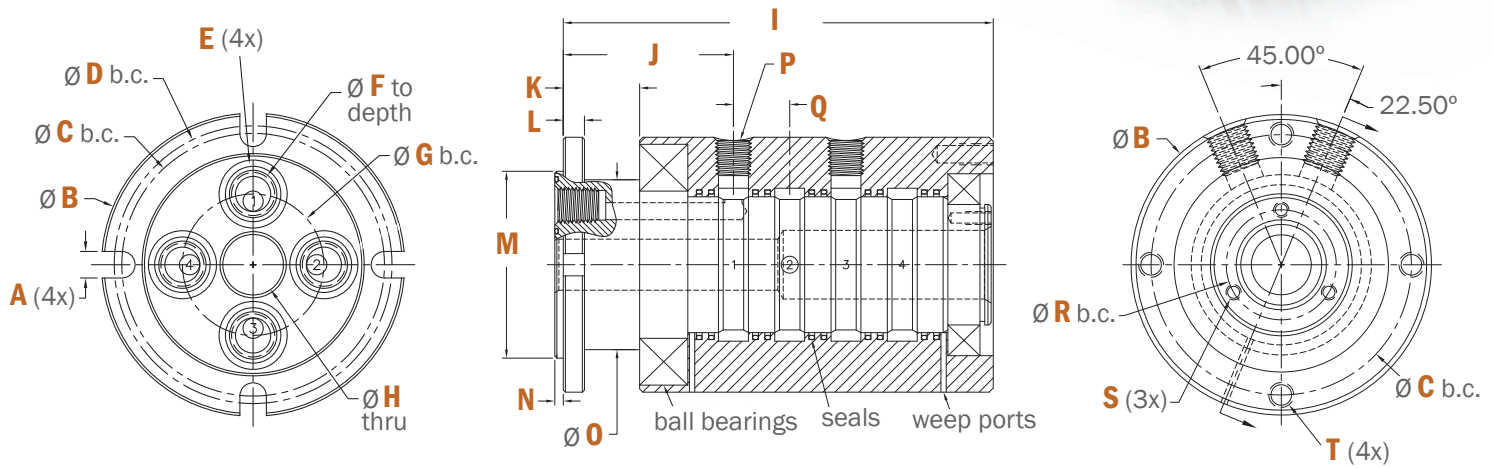
GP SERIES

GP 3 Flow Passage: Dimensions



	GP-331 [GPM-331]	GP-430 [GPM-430]	GP-431 [GPM-431]	GP-530 [GPM-530]	GP-630 [GPM-630]
A	0.343" [8.71mm]	0.343" [8.71mm]	0.343" [8.71mm]	0.406" [11.00mm]	0.531" [13.49mm]
B	4.187" [106.35mm]	4.250" [107.95mm]	4.937" [125.40mm]	5.187" [131.75mm]	6.937" [176.20mm]
C	3.625" [92.08mm]	3.625" [92.08mm]	4.125" [104.78mm]	4.500" [114.30mm]	5.750" [146.05mm]
D	3.875" [98.43mm]	3.937" [100.00mm]	4.625" [117.48mm]	4.812" [122.22mm]	6.500" [165.10mm]
E	2-019 O-Ring [20.35mm]	2-023 O-Ring [26.70mm]	2-023 O-Ring [26.70mm]	2-026 O-Ring [31.47mm]	2-128 O-Ring [37.77mm]
F	0.375" [9.53mm]	0.500" [12.70mm]	0.500" [12.70mm]	0.750" [19.05mm]	1.000" [25.40mm]
G	1.875" [47.63mm]	1.750" [44.45mm]	2.250" [57.15mm]	2.125" [53.98mm]	2.625" [53.98mm]
H	0.750" [19.05mm]	N/A	0.750" [19.05mm]	N/A	N/A
I	6.34" [161.1mm]	7.06" [179.3mm]	7.41" [188.1mm]	8.28" [210.2mm]	10.57" [268.4mm]
J	2.65" [67.2mm]	2.97" [75.5mm]	3.21" [81.5mm]	3.39" [86.1mm]	4.53" [115.1mm]
K	1.12" [28.5mm]	1.38" [34.9mm]	1.639" [42.8mm]	1.50" [38.1mm]	2.25" [57.2mm]
L	0.312" [7.92mm]	0.375" [9.53mm]	0.437" [11.10mm]	0.500" [11.10mm]	0.625" [15.88mm]
M	3.000" [76.20mm]	3.125" [79.38mm]	3.625" [92.08mm]	3.750" [95.25mm]	4.625" [117.48mm]
N	0.125" [3.18mm]	0.187" [4.75mm]	0.187" [4.75mm]	0.187" [4.75mm]	0.187" [4.75mm]
O	2.57" [65.4mm]	2.92" [74.2mm]	3.50" [89.0mm]	3.45" [87.6mm]	5.00" [127.0mm]
P	3/8"-18 NPT [G3/8"-19 BSPP]	1/2"-14 NPT [G1/2"-14 BSPP]	1/2"-14 NPT [G1/2"-14 BSPP]	3/4"-14 NPT [G3/4"-14 BSPP]	1"-11.5 NPT [G1"-11 BSPP]
Q	1.030" [26.16mm]	1.186" [30.12mm]	1.186" [30.12mm]	1.186" [30.12mm]	1.794" [45.57mm]
R	1.375" [34.93mm]	N/A	1.375" [34.93mm]	N/A	N/A
S	#10-24 [M5x0.8]	N/A	#10-24 [M5x0.8]	N/A	N/A
T	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	1/2"-13 [M12x1.75]

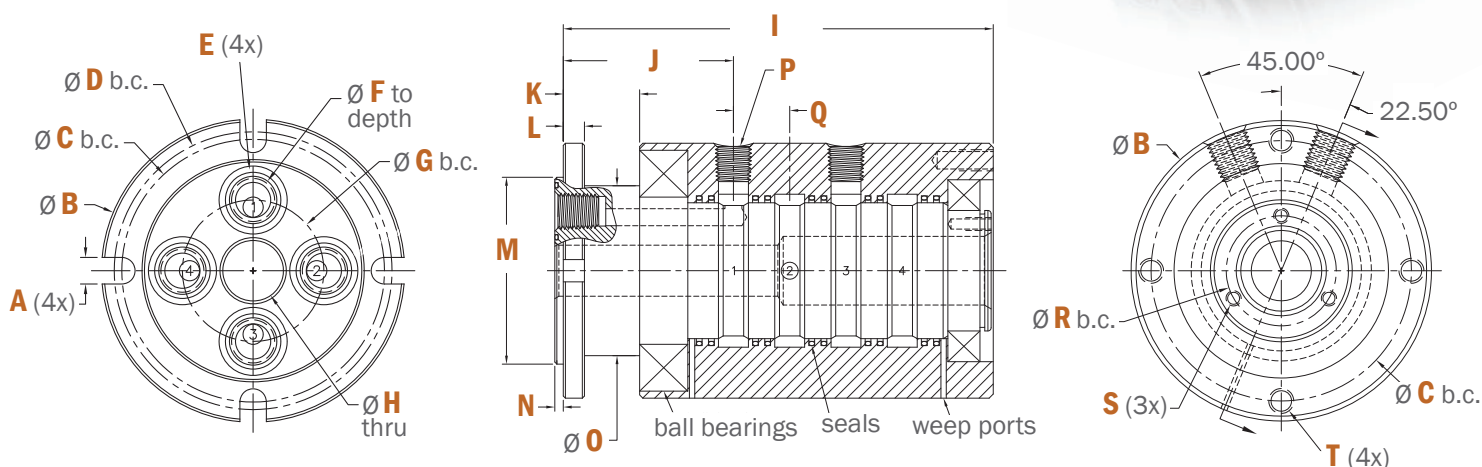
GP 4 Flow Passage: Dimensions



	GP-140 [GPM-140]	GP-141 [GPM-141]	GP-240 [GPM-240]	GP-241 [GPM-241]	GP-340 [GPM-340]
A	0.281" [7.14mm]	0.281" [7.14mm]	0.281" [7.14mm]	0.344" [8.74mm]	0.344" [8.74mm]
B	2.687" [68.24mm]	2.937" [74.60mm]	3.187" [80.95mm]	3.750" [95.25mm]	3.875" [98.43mm]
C	2.125" [53.98mm]	2.375" [60.33mm]	2.750" [69.85mm]	3.250" [82.55mm]	3.250" [82.55mm]
D	2.500" [63.50mm]	2.750" [69.85mm]	2.937" [74.60mm]	3.437" [87.30mm]	3.562" [90.47mm]
E	2-015 O-Ring [14.00mm]	2-015 O-Ring [14.00mm]	2-017 O-Ring [17.17mm]	2-017 O-Ring [17.17mm]	2-019 O-Ring [20.35mm]
F	0.156" [3.96mm]	0.160" [4.00mm]	0.250" [6.40mm]	0.250" [6.40mm]	0.380" [9.65mm]
G	1.062" [26.97mm]	1.312" [33.32mm]	1.375" [34.93mm]	1.750" [44.45mm]	1.500" [38.10mm]
H	N/A	0.500" [12.70mm]	N/A	0.750" [19.05mm]	N/A
I	4.70" [119.3mm]	4.74" [120.3mm]	6.12" [155.4mm]	6.33" [160.7mm]	6.98" [177.3mm]
J	1.99" [50.6mm]	2.03" [51.6mm]	2.30" [58.4mm]	2.50" [63.6mm]	2.63" [66.8mm]
K	1.00" [25.4mm]	1.00" [25.4mm]	1.00" [25.4mm]	1.12" [28.5mm]	1.19" [30.1mm]
L	0.250" [6.35mm]	0.250" [6.35mm]	0.250" [6.35mm]	0.312" [7.92mm]	0.312" [7.92mm]
M	1.875" [47.63mm]	2.187" [55.55mm]	2.375" [60.33mm]	2.750" [69.85mm]	2.625" [66.68mm]
N	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]
O	1.750" [44.45mm]	1.810" [46.00mm]	2.20" [55.9mm]	2.50" [63.5mm]	2.58" [65.4mm]
P	1/8"-27 NPT [G1/8"-28 BSPP]	1/8"-27 NPT [G1/8"-28 BSPP]	1/4"-18 NPT [G1/4"-19 BSPP]	1/4"-18 NPT [G1/4"-19 BSPP]	3/8"-18 NPT [G3/8"-19 BSPP]
Q	0.549" [13.94mm]	0.549" [13.94mm]	0.828" [21.03mm]	0.828" [21.03mm]	0.950" [24.13mm]
R	N/A	0.730" [18.54mm]	N/A	1.374" [34.90mm]	N/A
S	N/A	#4-40 [M3x0.5]	N/A	#10-24 [M5x0.8]	N/A
T	1/4"-20 [M6x1.0]	1/4"-20 [M6x1.0]	1/4"-20 [M6x1.0]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]

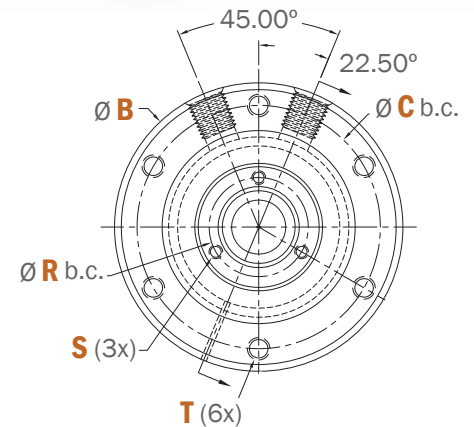
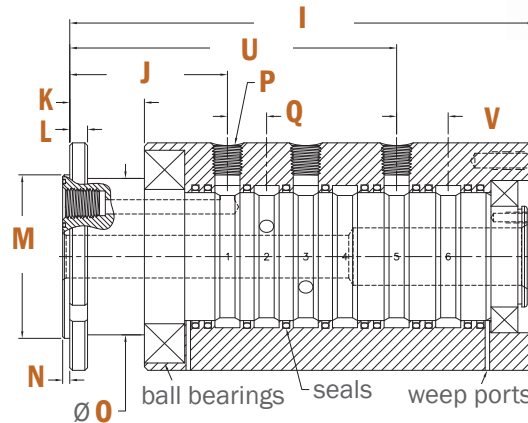
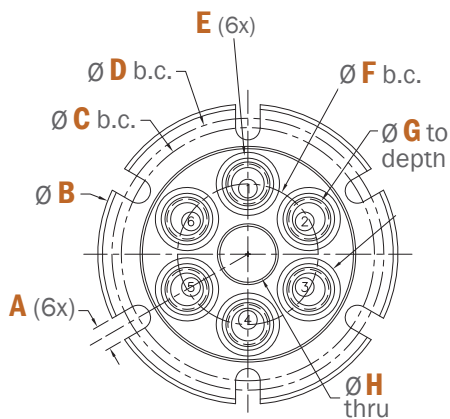
GP SERIES

GP 4 Flow Passage: Dimensions



	GP-341 [GPM-341]	GP-440 [GPM-440]	GP-441 [GPM-441]	GP-540 [GPM-540]	GP-641 [GPM-641]
A	0.343" [8.71mm]	0.343" [8.71mm]	0.343" [8.71mm]	0.406" [11.00mm]	0.531" [13.49mm]
B	4.187" [106.35mm]	4.250" [107.95mm]	4.937" [125.40mm]	5.187" [131.75mm]	7.187" [182.55mm]
C	3.625" [92.08mm]	3.625" [92.08mm]	4.125" [104.78mm]	4.500" [114.30mm]	6.000" [152.40mm]
D	3.875" [98.43mm]	3.937" [100.00mm]	4.625" [117.48mm]	4.812" [122.22mm]	6.750" [165.10mm]
E	2-019 O-Ring [20.35mm]	2-023 O-Ring [26.70mm]	2-023 O-Ring [26.70mm]	2-026 O-Ring [31.47mm]	2-128 O-Ring [37.77mm]
F	0.375" [9.53mm]	0.500" [12.70mm]	0.500" [12.70mm]	0.750" [19.05mm]	1.000" [25.40mm]
G	1.875" [47.63mm]	1.750" [44.45mm]	2.250" [57.15mm]	2.125" [53.98mm]	3.000" [76.20mm]
H	0.750" [19.05mm]	N/A	0.750" [19.05mm]	N/A	1.000" [25.40mm]
I	7.37" [187.2mm]	8.25" [209.5mm]	8.59" [218.2mm]	9.73" [247.1mm]	12.19" [268.4mm]
J	2.65" [67.2mm]	2.97" [75.5mm]	3.21" [81.5mm]	3.39" [86.1mm]	4.37" [111.1mm]
K	1.12" [28.5mm]	1.38" [34.9mm]	1.64" [42.8mm]	1.50" [38.1mm]	2.25" [57.2mm]
L	0.312" [7.92mm]	0.375" [9.53mm]	0.437" [11.10mm]	0.500" [11.10mm]	0.625" [15.88mm]
M	3.000" [76.20mm]	3.125" [79.38mm]	3.625" [92.08mm]	3.750" [95.25mm]	5.000" [117.48mm]
N	0.125" [3.18mm]	0.187" [4.75mm]	0.187" [4.75mm]	0.187" [4.75mm]	0.187" [4.75mm]
O	2.84" [72.1mm]	2.92" [74.2mm]	3.50" [89.00mm]	3.45" [87.60mm]	5.25" [133.4mm]
P	3/8"-18 NPT [G3/8"-19 BSPP]	1/2"-14 NPT [G1/2"-14 BSPP]	1/2"-14 NPT [G1/2"-14 BSPP]	3/4"-14 NPT [G3/4"-14 BSPP]	1"-11.5 NPT [G1"-11 BSPP]
Q	1.030" [26.16mm]	1.186" [30.12mm]	1.186" [30.12mm]	1.454" [36.93mm]	1.794" [45.57mm]
R	1.375" [34.93mm]	N/A	1.375" [34.93mm]	N/A	1.375" [34.93mm]
S	#10-24 [M5x0.8]	N/A	#10-24 [M5x0.8]	N/A	#10-24 [M5x0.8]
T	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	1/2"-13 [M12x1.75]

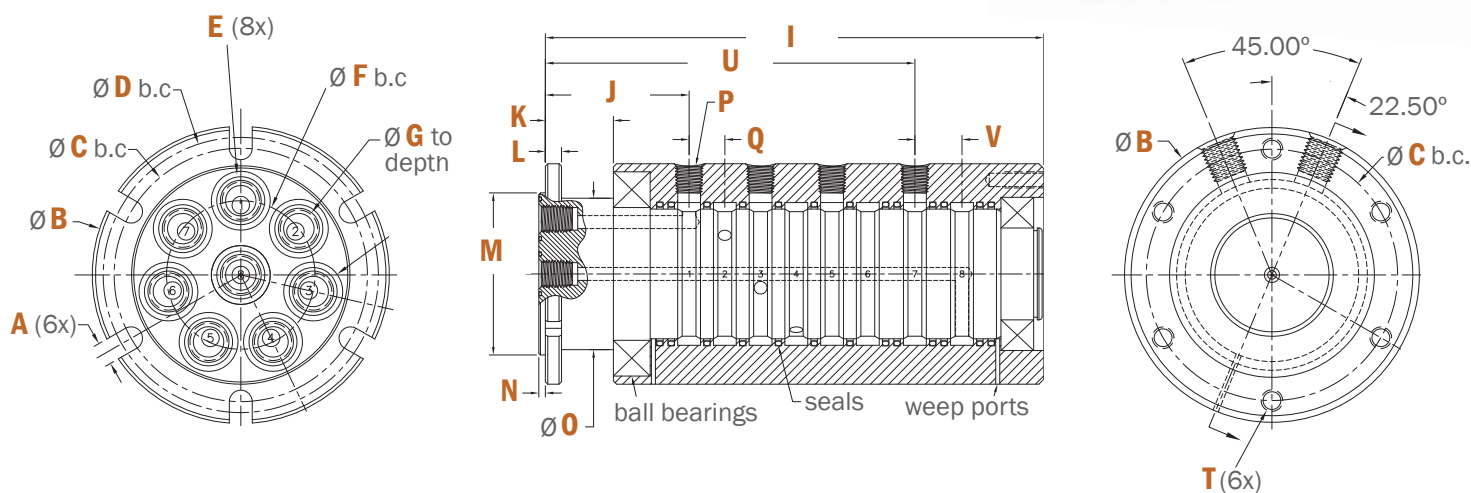
GP 6 Flow Passage: Dimensions



	GP-161 [GPM-161]	GP-261 [GPM-261]	GP-361 [GPM-361]	GP-460 [GPM-460]	GP-561 [GPM-561]
A	0.281" [7.14mm]	0.344" [9.00mm]	0.344" [9.00mm]	0.344" [9.00mm]	0.406" [11.00mm]
B	3.187" [80.95mm]	4.000" [101.6mm]	4.250" [107.95mm]	4.937" [125.40mm]	6.437" [163.50mm]
C	2.625" [66.68mm]	3.375" [85.73mm]	3.625" [92.08mm]	4.125" [104.78mm]	5.625" [142.88mm]
D	3.000" [76.20mm]	3.625" [92.08mm]	3.937" [100.00mm]	4.625" [117.48mm]	6.000" [152.40mm]
E	2-015 O-Ring [14.00mm]	2-017 O-Ring [17.17mm]	2-019 O-Ring [20.35mm]	2-023 O-Ring [26.70mm]	2-026 O-Ring [31.47mm]
F	1.562" [39.67mm]	1.875" [33.32mm]	2.125" [53.98mm]	2.437" [61.90mm]	3.125" [79.38mm]
G	0.160" [4.00mm]	0.250" [6.40mm]	0.375" [9.53mm]	0.500" [12.70mm]	0.750" [19.05mm]
H	0.500" [12.70mm]	0.750" [19.05mm]	0.750" [19.05mm]	N/A	0.750" [19.05mm]
I	6.48" [164.7mm]	8.18" [207.6mm]	8.96" [227.7mm]	10.31" [261.8mm]	13.23" [336.1mm]
J	2.44" [61.9mm]	2.77" [70.4mm]	2.83" [72.0mm]	3.21" [81.5mm]	3.56" [90.5mm]
K	1.19" [30.1mm]	1.31" [33.3mm]	1.31" [33.3mm]	1.69" [42.8mm]	1.75" [44.5mm]
L	0.312" [7.92mm]	0.312" [7.92mm]	0.312" [7.92mm]	0.437" [11.10mm]	0.500" [12.70mm]
M	2.375" [60.33mm]	2.875" [73.03mm]	3.250" [82.55mm]	3.812" [96.825mm]	4.750" [120.65mm]
N	0.125" [3.18mm]	0.125" [3.18mm]	0.125" [3.18mm]	0.187" [4.75mm]	0.187" [4.75mm]
O	2.19" [55.6mm]	2.75" [69.9mm]	2.92" [74.2mm]	3.72" [94.5mm]	4.500" [114.30mm]
P	1/8"-27 NPT [G1/8"-28 BSPP]	1/4"-18 NPT [G1/4"-19 BSPP]	3/8"-18 NPT [G3/8"-19 BSPP]	1/2"-14 NPT [G1/2"-14 BSPP]	3/4"-14 NPT [G3/4"-14 BSPP]
Q	0.549" [13.94mm]	0.689" [17.50mm]	0.811" [20.60mm]	0.967" [24.56mm]	1.485" [37.72mm]
R	0.730" [18.54mm]	1.374" [34.90mm]	1.374" [34.90mm]	N/A	1.374" [34.90mm]
S	#4-40 [M3x0.5]	#10-24 [M5x0.8]	#10-24 [M5x0.8]	N/A	#10-24 [M5x0.8]
T	1/4"-20 [M6x1.0]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	3/8"-16 [M10x1.5]
U	N/A	5.75" [146.0mm]	6.30" [159.9mm]	7.29" [185.3mm]	N/A
V	N/A	0.908" [23.06mm]	1.030" [26.16mm]	1.186" [30.12mm]	N/A

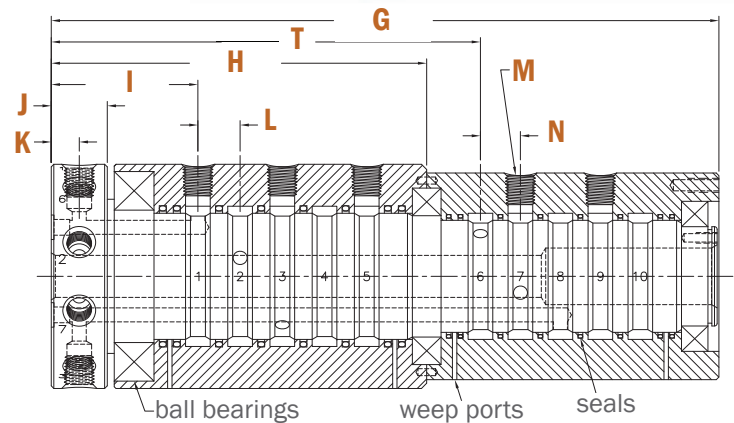
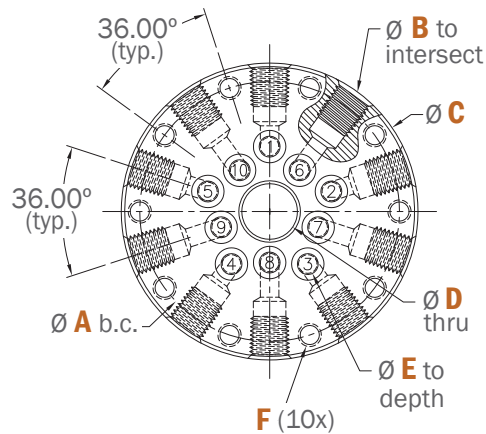
GP SERIES

GP 8 Flow Passage: Dimensions

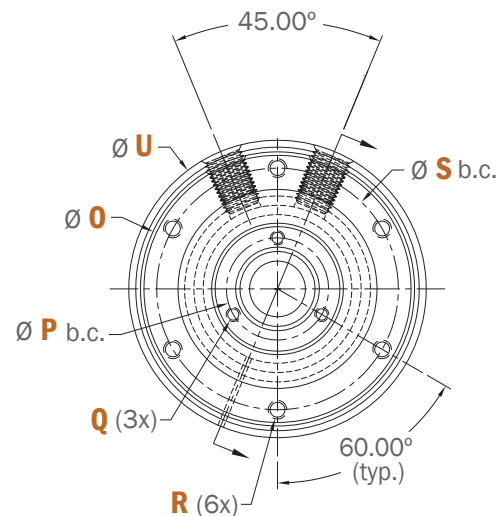


	GP-180 [GPM-180]	GP-280 [GPM-280]	GP-380 [GPM-380]	GP-480 [GPM-480]
A	0.281" [7.14mm]	0.344" [9.00mm]	0.344" [9.00mm]	0.344" [9.00mm]
B	3.437" [87.30mm]	4.250" [107.95mm]	4.937" [125.40mm]	5.625" [142.88mm]
C	3.000" [76.20mm]	3.625" [92.08mm]	4.312" [109.52mm]	5.000" [127.00mm]
D	3.250" [82.55mm]	3.397" [100.00mm]	4.624" [117.45mm]	5.250" [133.35mm]
E	2-015 O-Ring [14.00mm]	2-017 O-Ring [17.17mm]	2-019 O-Ring [20.35mm]	2-023 O-Ring [26.70mm]
F	1.812" [46.02mm]	2.125" [53.98mm]	2.500" [63.50mm]	2.875" [73.03mm]
G	0.160" [4.00mm]	0.250" [6.40mm]	0.375" [9.53mm]	0.500" [12.70mm]
H	N/A	N/A	N/A	N/A
I	7.49" [190.2mm]	9.61" [244.1mm]	10.93" [277.6mm]	12.45" [316.2mm]
J	2.32" [58.9mm]	2.77" [70.4mm]	3.07" [77.9mm]	3.29" [83.5mm]
K	1.19" [30.1mm]	1.31" [33.3mm]	1.63" [41.3mm]	1.69" [42.8mm]
L	0.312" [7.92mm]	0.312" [7.92mm]	0.375" [9.53mm]	0.437" [11.10mm]
M	2.625" [66.68mm]	3.125" [79.38mm]	3.625" [92.08mm]	4.250" [107.95mm]
N	0.125" [3.18mm]	0.125" [3.18mm]	0.187" [4.75mm]	0.187" [4.75mm]
O	2.55" [64.72mm]	2.92" [74.20mm]	3.60" [91.44mm]	4.00" [101.60mm]
P	1/8"-27 NPT [G1/8"-28 BSPP]	1/4"-18 NPT [G1/4"-19 BSPP]	3/8"-18 NPT [G3/8"-19 BSPP]	1/2"-14 NPT [G1/2"-14 BSPP]
Q	0.549" [13.94mm]	0.689" [17.50mm]	0.811" [20.60]	0.967" [24.56mm]
R	N/A	N/A	N/A	N/A
S	N/A	N/A	N/A	N/A
T	1/4"-20 [M6x1.0]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]	5/16"-18 [M8x1.25]
U	N/A	7.12" [181.0mm]	8.15" [207.1mm]	9.31" [236.4mm]
V	N/A	0.908" [23.06mm]	1.030" [26.16mm]	1.186" [30.12mm]

GP 10 Flow Passage: Dimensions

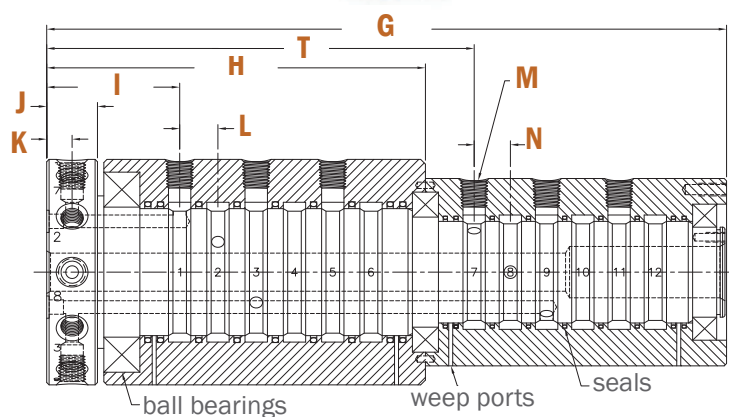
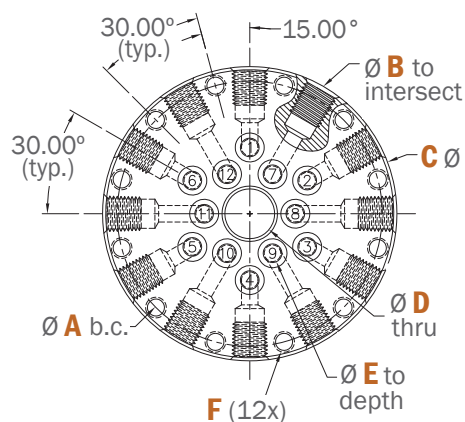


	GP-201-10 [GPM-201-10]	GP-301-10 [GPM-301-10]
A	3.500" [88.90mm]	4.500" [114.30mm]
B	0.250" [6.40mm]	0.375" [9.53mm]
C	4.000" [101.6mm]	4.937" [125.40mm]
D	0.750" [19.05mm]	0.750" [19.05mm]
E	0.250" [6.40mm]	0.375" [9.53mm]
F	5/6"- 18 [M8x1.25]	5/6"- 18 [M8x1.25]
G	11.91" [302.6mm]	13.62" [346.0mm]
H	6.70" [170.2mm]	7.48" [190.0mm]
I	2.62" [66.5mm]	2.85" [72.4mm]
J	1.00" [25.4mm]	1.250" [31.75mm]
K	0.500" [12.70mm]	0.687" [17.45mm]
L	0.753" [19.13mm]	0.875" [22.23mm]
M	1/4"-18 NPT [G1/4"-19 BSPP]	3/8"-18 NPT [G3/8"-19 BSPP]
N	0.713" [18.11mm]	0.875" [22.96mm]
O	3.687" [93.65mm]	3.937" [100.00mm]
P	1.374" [34.90mm]	1.374" [34.90mm]
Q	#10-24 [M5x0.8]	#10-24 [M5x0.8]
R	1/4"-20 [M6x1.0]	5/16"-18 [M8x1.25]
S	3.250" [82.55mm]	3.250" [82.55mm]
T	7.66" [194.5mm]	8.58" [217.9mm]
U	4.000" [101.6mm]	4.687" [119.05]

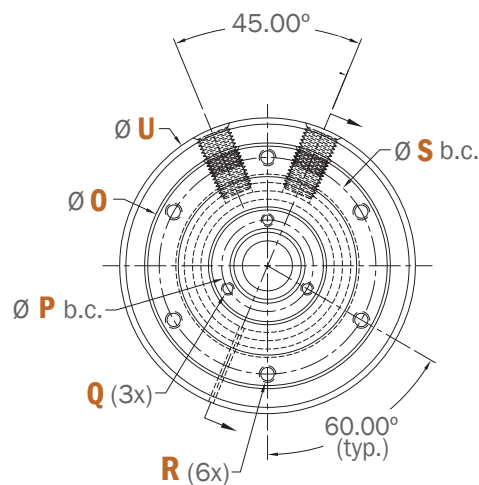


GP SERIES

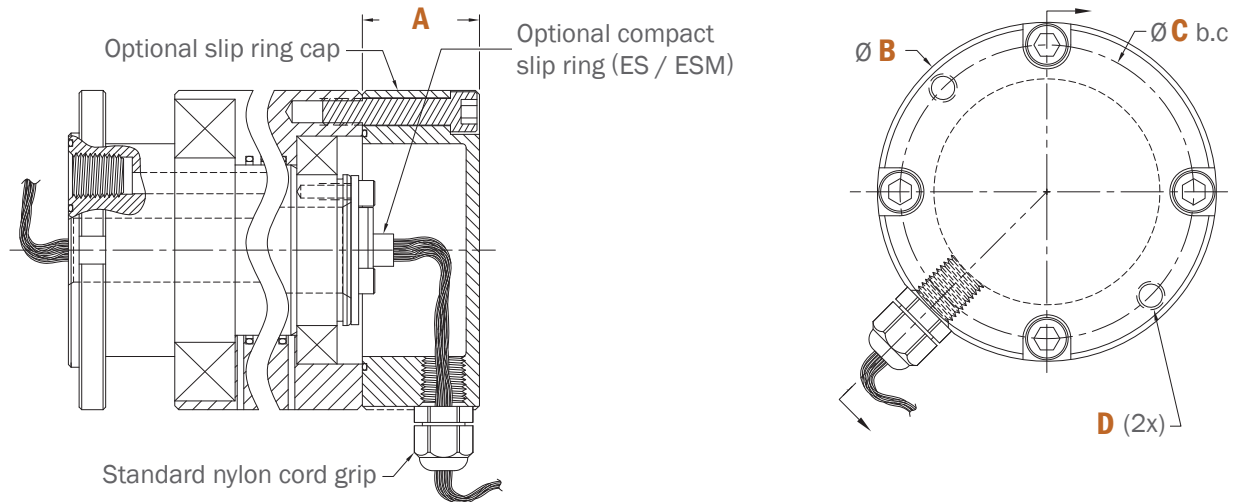
GP 12 Flow Passage: Dimensions



	GP-201-12 [GPM-201-12]	GP-301-12 [GPM-301-12]
A	4.000" [101.60mm]	4.500" [114.30mm]
B	0.250" [6.40mm]	0.375" [9.53mm]
C	4.437" [112.70mm]	4.937" [125.40mm]
D	0.750" [19.05mm]	0.750" [19.05mm]
E	0.250" [6.40mm]	0.375" [9.53mm]
F	5/6"-18 [M8x1.25]	5/6"-18 [M8x1.25]
G	13.38" [339.8mm]	15.37" [390.5mm]
H	7.45" [170.2mm]	8.36" [212.2mm]
I	2.62" [66.5mm]	2.85" [72.4mm]
J	1.00" [25.40mm]	1.25" [31.75mm]
K	0.500" [12.70mm]	0.687" [17.45mm]
L	0.753" [19.13mm]	0.875" [22.23]
M	1/4"-18 NPT [G1/4"-19 BSPP]	3/8"-18 NPT [G3/8"-19 BSPP]
N	0.713" [18.11mm]	0.875" [22.23]
O	3.687" [93.65mm]	3.937" [100.00mm]
P	1.374" [34.90mm]	1.374" [34.90mm]
Q	#10-24 [M5x0.8]	#10-24 [M5x0.8]
R	1/4"-20 [M6x1.0]	5/16"-18 [M8x1.25]
S	3.250" [82.55mm]	3.250" [82.55mm]
T	8.41" [213.8mm]	9.46" [240.2mm]
U	4.437" [112.70mm]	4.687" [119.05mm]



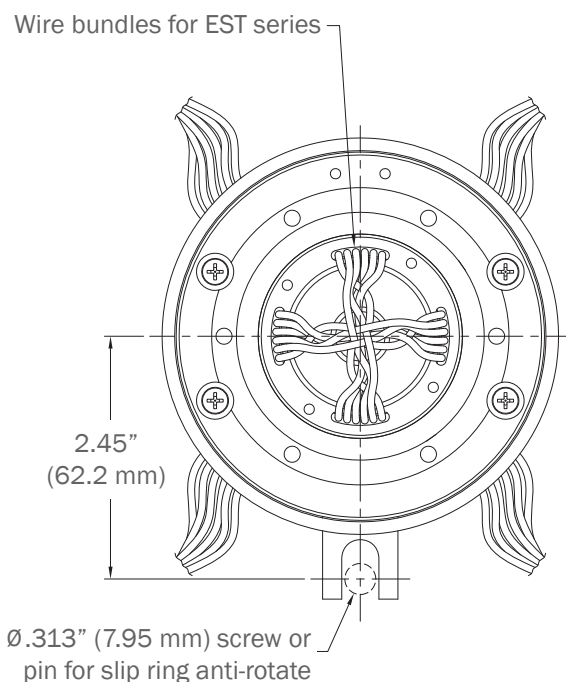
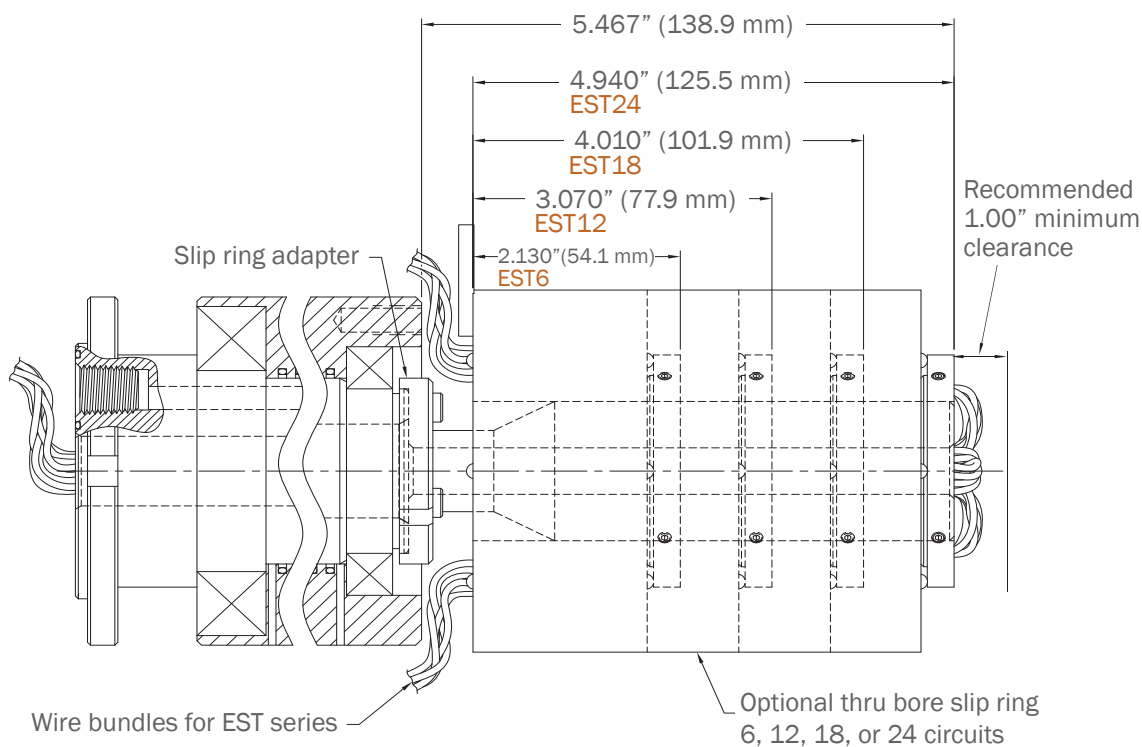
GP Optional Equipment



Model	A	B	C	D
GP-121	0.875" [22.2mm]	2.937" [74.6mm]	2.375" [60.33mm]	1/4"-20 [M6x1.0]
GP-131	0.875" [22.2mm]	2.937" [74.6mm]	2.375" [60.33mm]	1/4"-20 [M6x1.0]
GP-141	0.875" [22.2mm]	2.937" [74.6mm]	2.375" [60.33mm]	1/4"-20 [M6x1.0]
GP-161	0.875" [22.2mm]	3.187" [80.9mm]	2.625" [66.68mm]	1/4"-20 [M6x1.0]
GP-201-10	1.375" [34.9mm]	3.687" [93.6mm]	3.250" [82.55mm]	1/4"-20 [M6x1.0]
GP-201-12	1.375" [34.9mm]	3.687" [93.6mm]	3.250" [82.55mm]	1/4"-20 [M6x1.0]
GP-221	1.375" [34.9mm]	3.750" [95.3mm]	3.250" [82.55mm]	5/16"-18 [M8x1.25]
GP-231	1.375" [34.9mm]	3.750" [95.3mm]	3.250" [82.55mm]	5/16"-18 [M8x1.25]
GP-241	1.375" [34.9mm]	3.750" [95.3mm]	3.250" [82.55mm]	5/16"-18 [M8x1.25]
GP-261	1.375" [34.9mm]	4.000" [101.6mm]	3.375" [85.73mm]	5/16"-18 [M8x1.25]
GP-301-10	1.375" [34.9mm]	4.937" [125.4mm]	3.250" [82.55mm]	5/16"-18 [M8x1.25]
GP-301-12	1.375" [34.9mm]	3.937" [100.0mm]	3.250" [82.55mm]	5/16"-18 [M8x1.25]
GP-321	1.375" [34.9mm]	4.187" [106.3mm]	3.625" [92.08mm]	5/16"-18 [M8x1.25]
GP-331	1.375" [34.9mm]	4.187" [106.3mm]	3.625" [92.08mm]	5/16"-18 [M8x1.25]
GP-341	1.375" [34.9mm]	4.187" [106.3mm]	3.625" [92.08mm]	5/16"-18 [M8x1.25]
GP-361	1.375" [34.9mm]	4.250" [107.9mm]	3.625" [92.08mm]	5/16"-18 [M8x1.25]
GP-421	1.375" [34.9mm]	4.937" [125.4mm]	4.125" [104.78mm]	5/16"-18 [M8x1.25]
GP-431	1.375" [34.9mm]	4.937" [125.4mm]	4.125" [104.78mm]	5/16"-18 [M8x1.25]
GP-441	1.375" [34.9mm]	4.937" [125.4mm]	4.125" [104.78mm]	5/16"-18 [M8x1.25]
GP-561	1.375" [34.9mm]	6.437" [163.5mm]	5.625" [142.88mm]	3/8"-16 [M10x1.50]
GP-621	1.375" [34.9mm]	7.187" [182.5mm]	6.000" [152.40mm]	1/2"-13 [M12x1.75]
GP-641	1.375" [34.9mm]	7.187" [182.5mm]	6.000" [152.40mm]	1/2"-13 [M12x1.75]

GP SERIES

GP Optional Equipment



Electrical Slip Ring Options

- + Ethernet Slip Rings Available
- + 100 BaseT & 1000 BaseT Ethernet Connections
- + High Quality Gold on Gold Contacts
- + Capsule & Thru-bore Options
- + Low Electrical Noise
- + Analog/Digital Transfer
- + Cord Sets & Pin Connectors Options
- + Compatible With a Range of Data Bus Protocols



AVAILABLE SLIP RINGS¹

PART #	# OF CIRCUITS	MAX AMPS/ CIRCUIT	MAX VOLTS/ CIRCUIT
ES6A	6	2	120
ES6	6	2	210
ES12A	12	2	120
ES12	12	2	210
ES18	18	2	210
ES24	24	2	210
ES36	36	2	210
ES56	56	2	210
ESE64 ²	10	(6x) 2A	240
ESE264 ²	12	(2x) 5A, (6x) 2A	240
ESE224 ²	8	(2x) 10A, (2x) 2A	240
ESE2124 ²	18	(2x) 5A, (12x) 2A	240
ESE284 ²	14	(2x) 10A, (8x) 2A	240
ESE438 ³	51	(43x) 2A	240
ESE4358 ³	47	(4x) 5A, (35x) 2A	240
ESE2358 ³	45	(2x) 10A, (35x) 2A	240
ESE8278 ³	43	(8x) 5A, (27x) 2A	240
ESE24278 ³	41	(2x) 10A, (4x) 5A, (27x) 2A	240

PART #	# OF CIRCUITS	MAX AMPS/ CIRCUIT	MAX VOLTS/ CIRCUIT
ESM36	9	(3x) 10A, (6x) 2A	210
ESM312	15	(3x) 5A, (12x) 2A	210
ESM420	24	(4x) 10A, (20x) 2A	210
ESM428	32	(4x) 5A, (28x) 2A	210
ESM440	44	(4x) 10A, (40x) 2A	210
ESM448	52	(4x) 5A, (48x) 2A	210
EST6	6	10	600
EST12	12	10	600
EST18	18	10	600
EST24	24	10	600
ESET4 ²	4	Ethernet Only	600
ESET8 ³	8	Ethernet Only	600
ESET68 ³	14	(6x) 10A	600
ESET128 ³	20	(12x) 10A	600
ESET184 ²	22	(18x) 10A	600

¹ All slip ring lead wire lengths are 48" (1219mm)

EST / ESET slip rings are 36" (914mm)

² 100 BaseT Ethernet connections

³ 1000 BaseT Ethernet connections

GP SERIES

Installation & Mounting

THESE INSTRUCTIONS ARE INTENDED TO BE USED AS A GENERAL GUIDE, PLEASE CONSULT THE FACTORY TO DISCUSS ANY SPECIFIC QUESTIONS RELATED TO YOUR INSTALLATION.

PREPARATION:

Remove the rotary union from the shipping container. Inspect the entire assembly, including all passage connections to make sure that they are clean and no visual damage occurred during transport. If the assembly is a rotary union/electrical slip ring, the electrical slip ring may be packaged separately to protect during shipping. If this is the case, mount the electrical slip ring to the rotating union assembly using the supplied hardware.

RECOMMENDED ROTARY UNION INSTALLATION PRACTICE:

DSTI does not recommend mounting the rotary union with both the shaft & housing components solidly bolted into place. One of the two components should be mounted in a manner that allows for some movement in the event of misalignment or run-out during rotation. Using only the supply lines or hoses to fix the stationary component in place is also not recommended. An anti-rotation arm that attaches to the stationary part of the rotary union assembly and rests against part of the equipment framework is recommended (see figure 1.1).

MOUNTING A ROTARY UNION W/ AN ELECTRICAL SLIP RING:

Make sure the electrical wiring is fixed in place and protected from contact with other components or equipment. Care should be taken to make sure the slip ring area remains clean and dry during use.

SHAFT MOUNTING: O-RING MANIFOLD TYPE:

Make sure the rotary union shaft face & equipment mounting surface is clean and free from dents or chips to insure proper installation. Equipment pilot bore needs to be concentric to the center line of the rotary union shaft to assure proper function. Install face mount O-rings into groove or counter bore in rotating union shaft face. General assembly grease can be used as needed to hold O-rings into place during assembly. Align rotary union shaft with equipment pilot bore and flow passages, then insert into place. Bolt assembly into place using tapped holes or mounting flange on rotary union face.

SHAFT MOUNTING, THREADED CONNECTIONS:

When mounting the shaft using threaded connections, make sure all fittings are properly tightened & pipe thread sealant is used as required. Equipment mounting surface needs to be concentric to the center line of the rotary union shaft to assure proper function. After all fittings are in place, bolt assembly into place using tapped holes or mounting flange on rotating union shaft.

INITIAL START-UP:

After rotary union is installed, a dry run is recommended to assure proper mounting of the rotating union assembly. Begin rotation of the equipment, and verify that while rotating at the maximum operating speed there is no visible movement of the rotary union assembly due to misalignment.

FIGURE 1.1



WARRANTY:

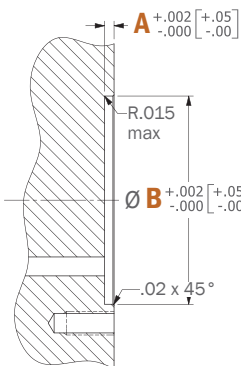
DSTI Warrants, for a period of 2 years from the date of original delivery, its products to be free from defects in material and workmanship. DSTI's obligation under this warranty is limited to repair or replacement at its factory of any part or parts of said products which shall be returned to DSTI with transportation charges prepaid and which DSTI's examination shall disclose to its satisfaction to have been defective. Under no circumstances shall DSTI be held liable for loss, damage, cost of repair or consequential damages of any kind in connection with the sale, use or repair of any product purchased from DSTI. Warranty is subject to change.

GP SERIES

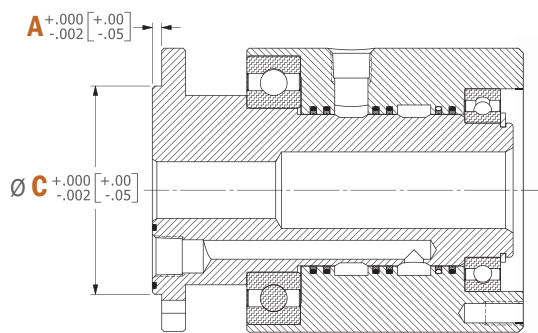
Customer Interface

(2 - 8 passage models)

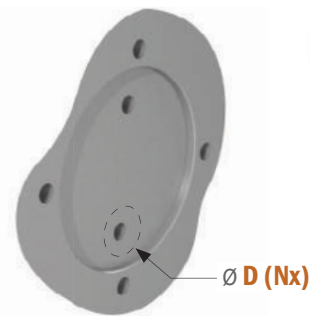
Customer Interface Example



GP Union



Customer Interface Example

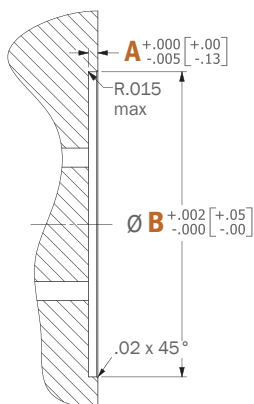


GP Union

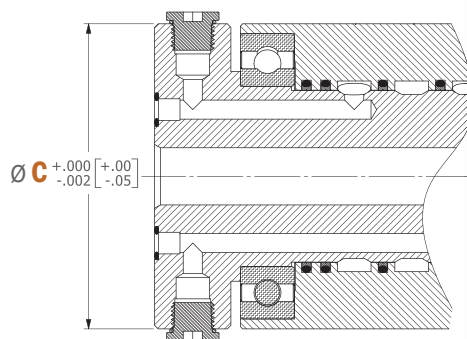


(10 & 12 passage models)

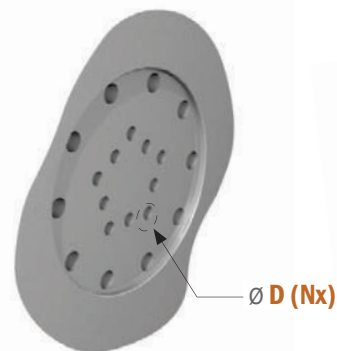
Customer Interface Example



GP Union



Customer Interface Example



GP Union



Customer Interface

(2 - 8 passage models)

PART #	A	B	C	D (Nx)
GP-120	0.125" [3.18mm]	1.626" [41.30mm]	1.625" [41.28mm]	0.656" [16.66mm] (2x)
GP-121	0.125" [3.18mm]	2.188" [55.58mm]	2.187" [55.55mm]	0.706" [17.93mm] (2x)
GP-220	0.125" [3.18mm]	2.001" [50.83mm]	2.000" [50.80mm]	0.843" [21.24mm] (2x)
GP-221	0.125" [3.18mm]	2.751" [69.88mm]	2.750" [69.85mm]	0.843" [21.24mm] (2x)
GP-320	0.125" [3.18mm]	2.376" [60.35mm]	2.375" [60.33mm]	0.968" [24.59mm] (2x)
GP-321	0.125" [3.18mm]	3.001" [76.23mm]	3.000" [76.20mm]	0.968" [24.59mm] (2x)
GP-420	0.125" [3.18mm]	2.751" [69.88mm]	2.750" [69.85mm]	1.180" [29.97mm] (2x)
GP-421	0.187" [4.75mm]	3.626" [92.10mm]	3.625" [92.08mm]	1.156" [29.36mm] (2x)
GP-621	0.187" [4.75mm]	5.001" [127.03mm]	5.000" [127.00mm]	1.694" [43.03mm] (2x)
GP-130	0.125" [3.18mm]	1.876" [47.65mm]	1.875" [47.63mm]	0.656" [16.66mm] (3x)
GP-131	0.125" [3.18mm]	2.188" [55.58mm]	2.187" [55.55mm]	0.706" [17.93mm] (3x)
GP-230	0.125" [3.18mm]	2.376" [60.35mm]	2.375" [60.33mm]	0.843" [21.24mm] (3x)
GP-231	0.125" [3.18mm]	2.751" [69.88mm]	2.750" [69.85mm]	0.843" [21.24mm] (3x)
GP-330	0.125" [3.18mm]	2.626" [66.70mm]	2.625" [66.68mm]	0.968" [24.59mm] (3x)
GP-331	0.125" [3.18mm]	3.001" [76.23mm]	3.000" [76.20mm]	0.968" [24.59mm] (3x)
GP-430	0.187" [4.75mm]	3.126" [79.40mm]	3.125" [79.38mm]	1.156" [29.36mm] (3x)
GP-431	0.187" [4.75mm]	3.626" [92.10mm]	3.625" [92.08mm]	1.156" [29.36mm] (3x)
GP-530	0.187" [4.75mm]	3.751" [95.28mm]	3.750" [95.25mm]	1.420" [36.07mm] (3x)
GP-630	0.187" [4.75mm]	4.626" [117.50mm]	4.625" [117.48mm]	1.694" [43.03mm] (3x)
GP-140	0.125" [3.18mm]	1.876" [47.65mm]	1.875" [47.63mm]	0.656" [16.66mm] (4x)
GP-141	0.125" [3.18mm]	2.188" [55.58mm]	2.187" [55.55mm]	0.706" [17.93mm] (4x)
GP-240	0.125" [3.18mm]	2.376" [60.35mm]	2.375" [60.33mm]	0.843" [21.24mm] (4x)
GP-241	0.125" [3.18mm]	2.751" [69.88mm]	2.750" [69.85mm]	0.843" [21.24mm] (4x)
GP-340	0.125" [3.18mm]	2.626" [66.70mm]	2.625" [66.68mm]	0.968" [24.59mm] (4x)
GP-341	0.125" [3.18mm]	3.001" [76.23mm]	3.000" [76.20mm]	0.968" [24.59mm] (4x)
GP-440	0.187" [4.75mm]	3.126" [79.40mm]	3.125" [79.38mm]	1.180" [29.97mm] (4x)
GP-441	0.187" [4.75mm]	3.626" [92.10mm]	3.625" [92.08mm]	1.180" [29.97mm] (4x)
GP-540	0.187" [4.75mm]	3.751" [95.28mm]	3.750" [95.25mm]	1.420" [36.07mm] (4x)
GP-641	0.187" [4.75mm]	5.001" [127.03mm]	5.000" [127.00mm]	1.694" [43.03mm] (4x)
GP-161	0.125" [3.18mm]	2.376" [60.35mm]	2.375" [60.33mm]	0.706" [17.93mm] (6x)
GP-261	0.125" [3.18mm]	2.876" [73.05mm]	2.875" [73.03mm]	0.843" [21.24mm] (6x)
GP-361	0.125" [3.18mm]	3.251" [82.58mm]	3.250" [82.55mm]	0.968" [24.59mm] (6x)
GP-460	0.187" [4.75mm]	3.813" [96.85mm]	3.812" [96.83mm]	1.156" [29.36mm] (6x)
GP-561	0.187" [4.75mm]	4.751" [120.68mm]	4.750" [120.65mm]	1.420" [36.07mm] (6x)
GP-180	0.125" [3.18mm]	2.626" [66.70mm]	2.625" [66.68mm]	0.706" [17.93mm] (8x)
GP-280	0.125" [3.18mm]	3.126" [79.40mm]	3.125" [79.38mm]	0.843" [21.24mm] (8x)
GP-380	0.187" [4.75mm]	3.626" [92.10mm]	3.625" [92.08mm]	0.968" [24.59mm] (8x)
GP-480	0.187" [4.75mm]	4.251" [107.98mm]	4.250" [107.95mm]	1.156" [29.36mm] (8x)

(10 & 12 passage models)

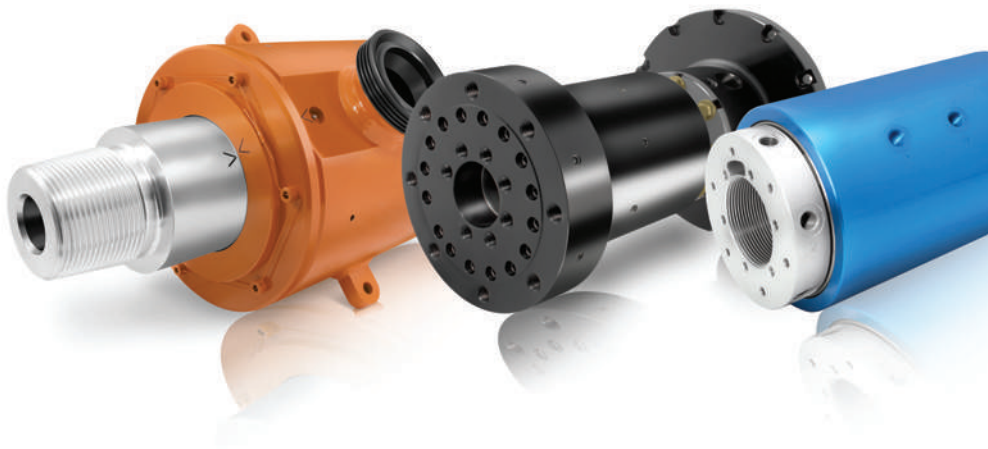
PART #	A	B	C	D (Nx)
GP-201-10	0.094" [2.39mm]	4.001" [101.63mm]	4.000" [101.60mm]	0.437" [11.10mm] (10x)
GP-301-10	0.187" [4.75mm]	4.938" [125.43mm]	4.937" [125.40mm]	0.562" [14.27mm] (10x)
GP-201-12	0.094" [2.39mm]	4.438" [112.73mm]	4.437" [112.70mm]	0.437" [11.10mm] (12x)
GP-301-12	0.187" [4.75mm]	4.938" [125.43mm]	4.937" [125.40mm]	0.562" [14.27mm] (12x)

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