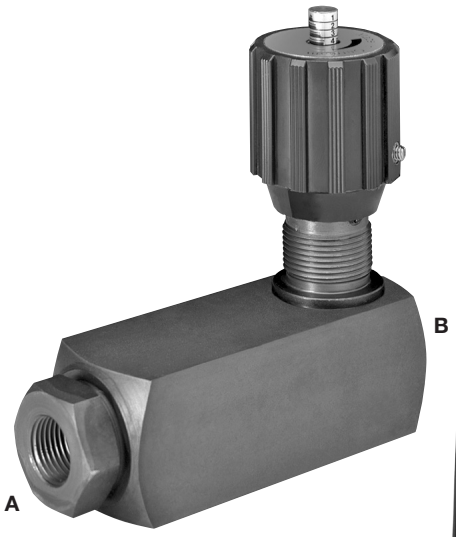
SRVR & SRVRP Series

Pressure Compensated Flow Control Valves
Sizes 08 to 20

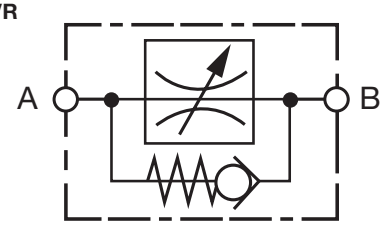


SRVR Series
Pressure Compensated
Inline Flow Control Valve

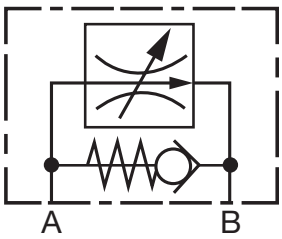
SRVRP Series
Pressure Compensated
Manifold Mount Flow Control Valve

Hydraulic Symbols

SRVR



SRVRP



Up to 42 gpm (160 l/min)
Up to 3000 psi (210 bar)

Description

The SRVR / SRVRP is a pressure-compensated flow control valve which maintains a constant outlet flow by means of a control function. The flow rate is largely independent of the pressure and viscosity. The valve has a variable orifice with pressure compensator spool. The variable orifice determines the flow cross section. If oil is flowing from A to B, a pressure drop occurs at the variable orifice. The pressure compensator moves into the control position which corresponds to the force equilibrium. This is created by the pressure drop acting on the control piston area and overcoming the spring force.

As the flow rate increases (increasing pressure drop), the diameter of the control orifice is reduced until the forces are equal again. A constant flow rate from A to B is therefore achieved. In the reverse direction there is free flow via a built-in check valve.

Important: if the required control pressure differential is not reached, the valve operates as a non-compensated throttle valve.

Features

- For regulating the speed of loads independently of the pressure
- For limiting the max. speed of lifting gear
- For limiting the flow rate for control oil circuits in the main circuit and offline
- Hardened and ground valve components to ensure minimal wear and extended service life
- Choice of five sizes for optimum adaptability to the system
- Space-saving installation
- Phosphated housing *(standard)*

Technical Specifications

Operating pressure:	max. 3000 psi (210 bar)
Nominal flow:	
SRVR / SRVRP08	up to max. 3 gpm (12 l/min)
SRVR / SRVRP10	up to max. 6 gpm (22 l/min)
SRVR / SRVRP12	up to max. 15 gpm (55 l/min)
SRVR / SRVRP16	up to max. 24 gpm (90 l/min)
SRVR 20	up to max. 42 gpm (160 l/min)
Media Operating Temp. Range:	-4°F to 212°F (-20°C to 80°C)
Ambient Temp Range:	-4°F to 212°F (-20°C to 80°C)
Operating fluid:	Hydraulic oil to DIN 51524 Part 1 & 2
Viscosity range:	min. 2.8 mm²/s to max. 800 mm²/s
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner
Installation:	No orientation restrictions, preferably horizontal
Materials:	
Valve Body:	Steel
Piston:	Hardened and ground steel
Seals:	FKM *(standard)*
Weight:	
SRVR 08 = 1.3 lbs (0.6 kg)	SRVRP 08 = 1.9 lbs (0.9 kg)
SRVR 10 = 2.0 lbs (0.9 kg)	SRVRP 10 = 3.1 lbs (1.4 kg)
SRVR 12 = 3.7 lbs (1.7 kg)	SRVRP 12 = 5.1 lbs (2.3 kg)
SRVR 16 = 4.8 lbs (2.2 kg)	SRVRP 16 = 7.3 lbs (3.3 kg)
SRVR 20 = 8.8 lbs (4.0 kg)	

FLOW CONTROL VALVES

Model Code

SRVR – 10 – 01 . X / 0

Flow Control Valve
SRVR = Flow control valve for inline mountingwith bypass check valve
SRVRP= Flow control valve for manifold mounting with bypass check valve

Nominal Sizes
08, 10, 12, 16,
20 (SRVR only- BSP only)

Type
01 = standard *(housing phosphated)*
12 = housing nickel-plated, seals FKM with protective dome nut – adjustment with tool
(only SRVR-10 to 16 and SRVRP-10 and 12)
Other types available on request.

Series
(determined by manufacturer)

Threaded connection *(SRVR only)*
0 = BSP thread, Form X to DIN 3852 Part 2
5 = NPTF thread

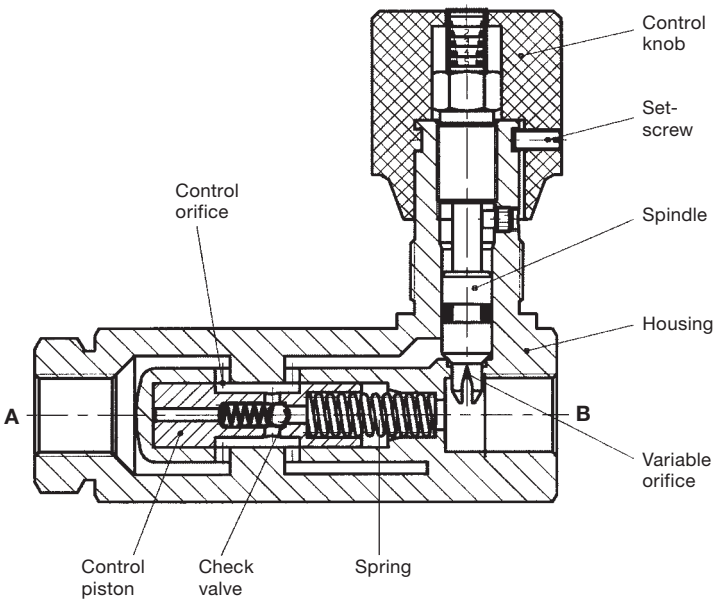
Model Codes containing RED are non-standard items
– Minimum quantities may apply
– Contact HYDAC for information and availability
– Not all combinations are available

Standard Models

Code	Part No.
SRVR-08-01.X/5	706071
SRVR-10-01.X/5	706079
SRVR-12-01.X/5	706087
SRVR-16-01.X/5	706095
SRVR-08-01.X/0	706067
SRVR-10-01.X/0	706075
SRVR-12-01.X/0	706083
SRVR-16-01.X/0	706091
SRVR-20-01.X/0	706115
SRVRP-08-01.X	706151
SRVRP-10-01.X	706153
SRVRP-12-01.X	706155
SRVRP-16-01.X	706157

Other models on request

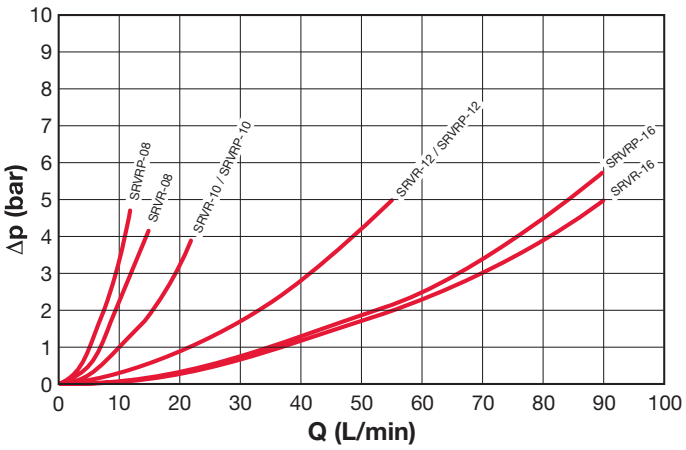
Function



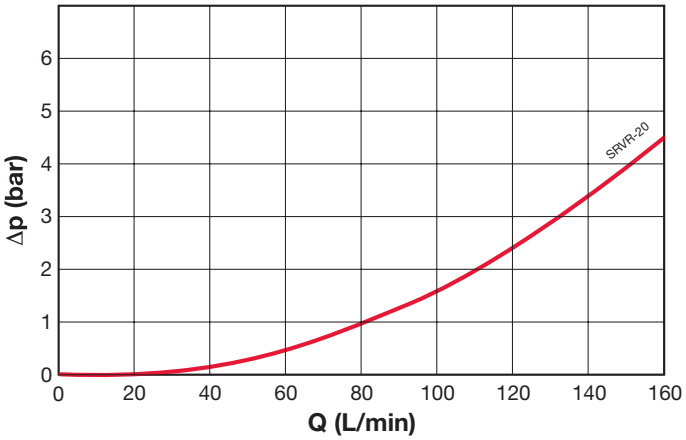
Performance

Pressure drops, dependent on flow rate
Flow direction from B to A
Pressure differential Δp dependent on flow rate Q via variable orifice and check valve (SRVR / SRVRP) with fully open spindle measured at ν= 34 mm²/s and t_{oil} = 46 °C

SRVR/SRVRP, Nominal sizes 8-16



SRVR, Nominal size 20



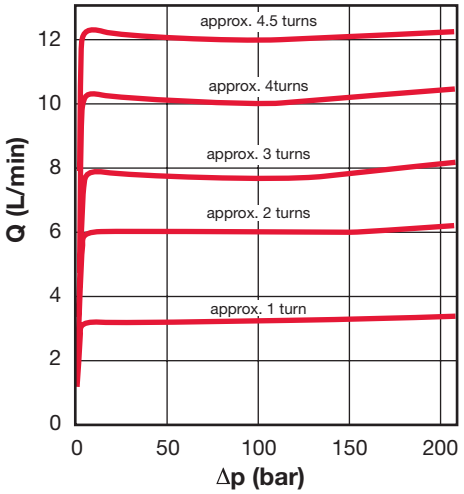
Flow Rate / Operating Pressure Ranges

Nominal Size	Flow Rate		Required control pressure differential $\Delta p = p_1 - p_2$	
	l/min	GPM	bar	psi
08	12	3	7	101.5
10	22	6	7	101.5
12	55	15	7	101.5
16	90	24	7	101.5
20	160	42	12	174

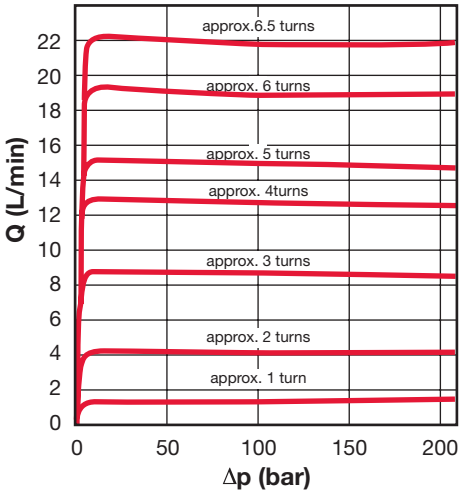
Performance

Flow rate, pressure-dependent
Flow direction A to B
Q–Δp curve measured at ν = 34 mm²/s and t_{oil} = 46 °C

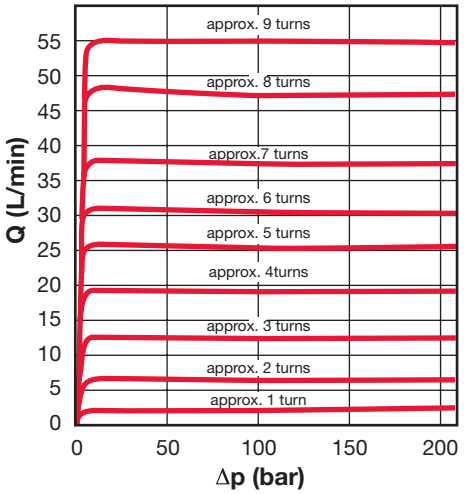
SRVR / SRVRP–08–01.X



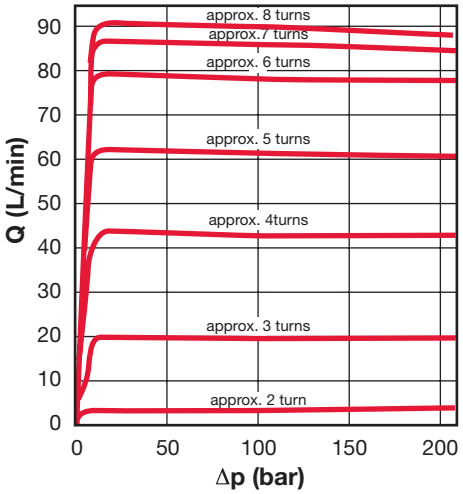
SRVR / SRVRP–10–01.X



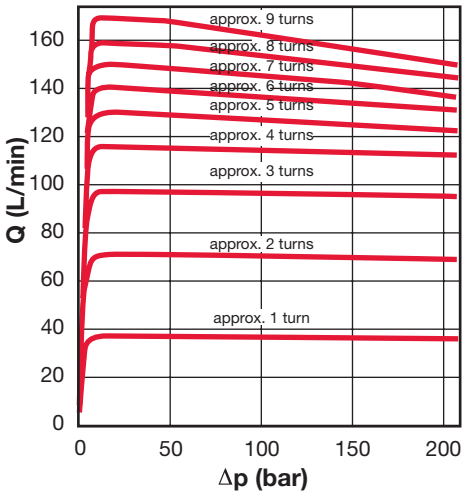
SRVR / SRVRP–12–01.X



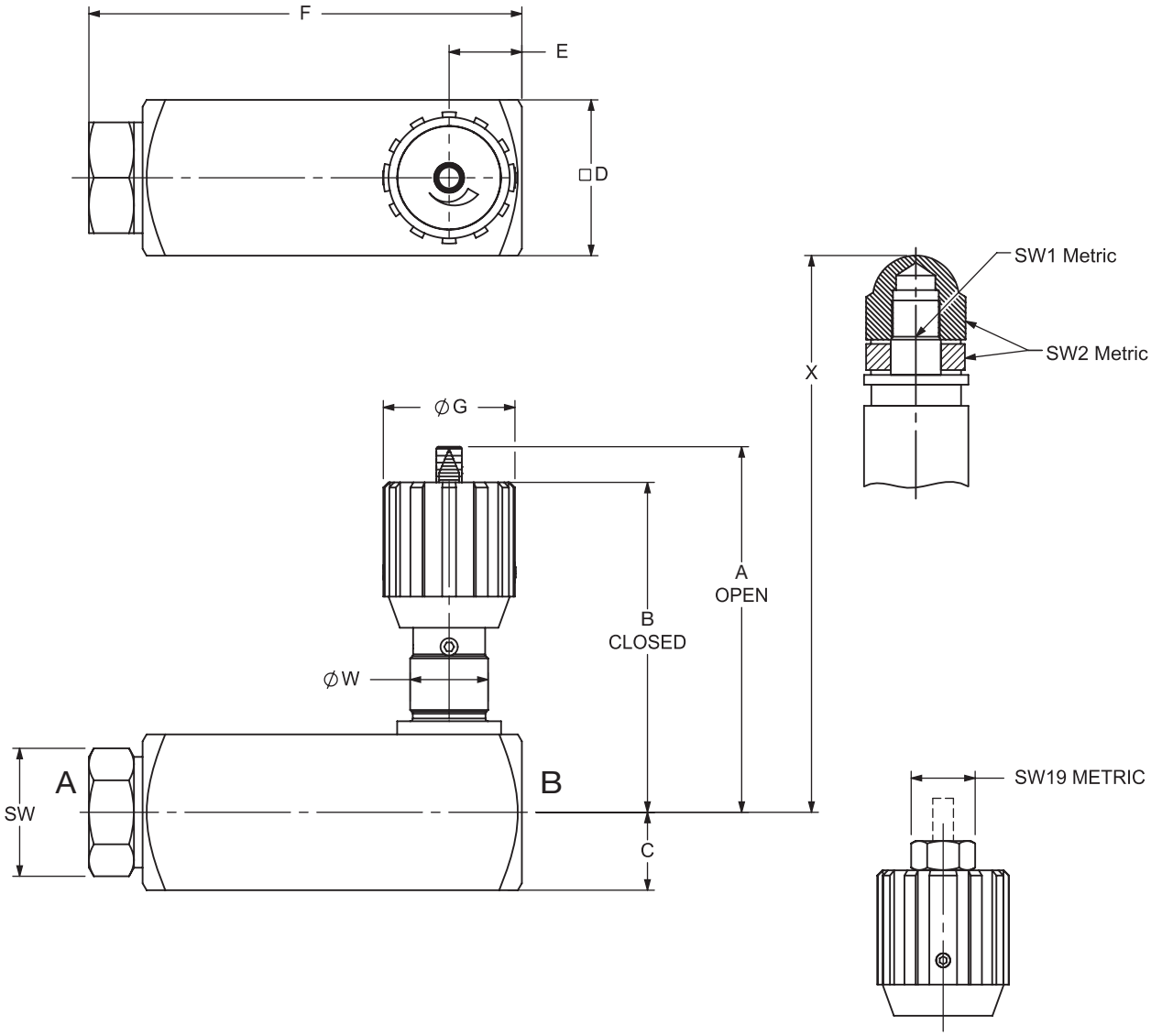
SRVR / SRVRP–16–01.X



SRVR–20–01.X



Dimensions
SRVR

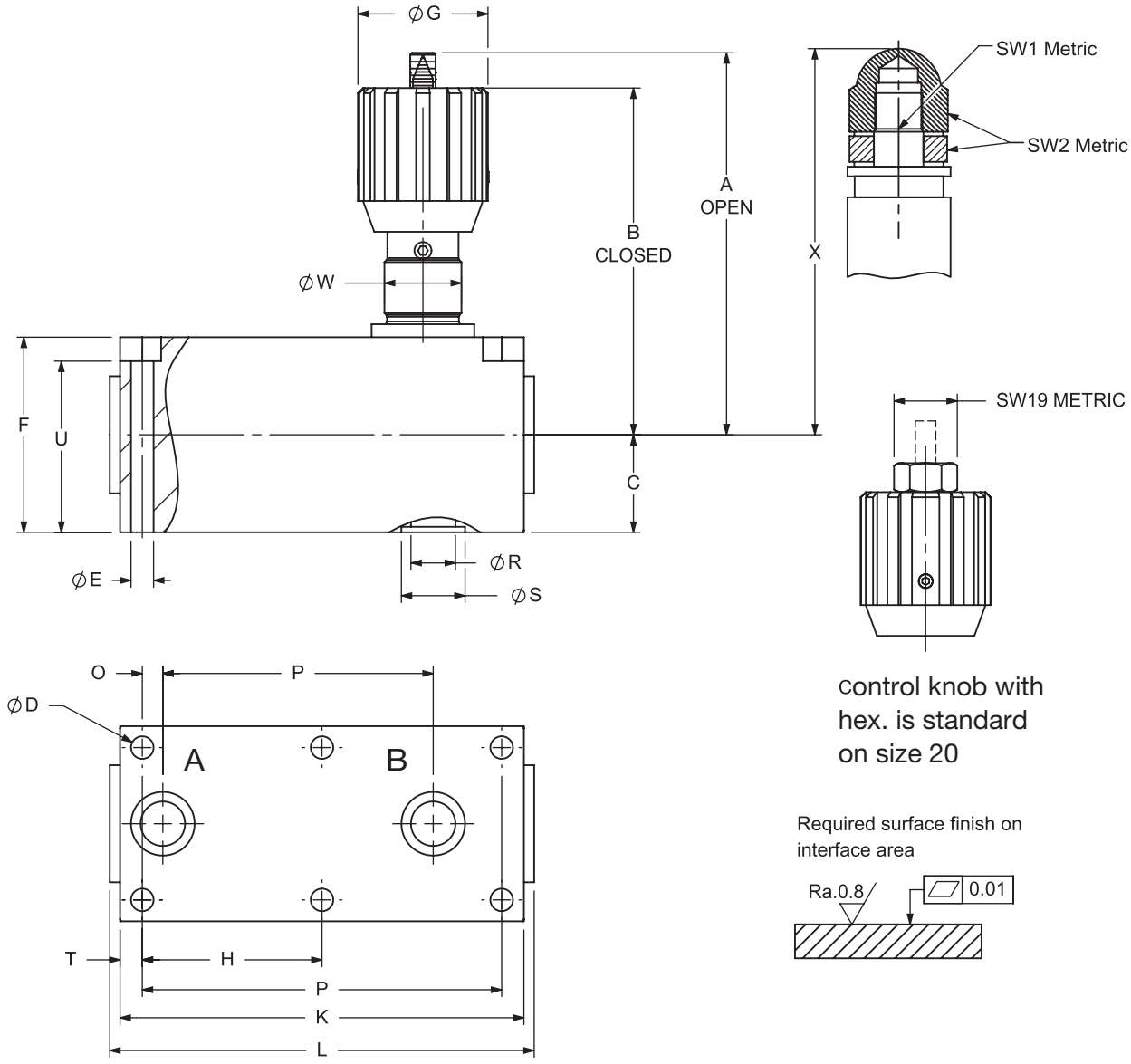


control knob with hex. is standard on size 20

Size	NPT	BSP	A	B	C	D	E	F	ØG	ØW	SW	SW1	SW2	X	Wt.
08	1/4”	G 1/4	2.99 (76)	2.68 (68)	0.59 (15)	1.18 (30)	0.69 (17.5)	3.62 (92)	1.14 (29)	PG11	0.94 (24)	–	–	–	1.3 (0.6)
10	3/8”	G 3/8	3.58 (91)	3.21 (81.5)	0.69 (17.5)	1.38 (35)	0.71	4.13 (105)	1.50 (38)	PG16	1.06 (27)	0.20 (5)	0.67 (17)	3.37 (85.5)	2.0 (0.9)
12	1/2”	G 1/2	4.19 (106.5)	3.80 (96.5)	0.89 (22.5)	1.77 (45)	0.83 (21)	4.92 (125)	1.50 (38)	PG16	1.26 (32)	0.24 (6)	0.75 (19)	4.11 (104.5)	3.7 (1.7)
16	3/4”	G 3/4	4.29 (109)	3.94 (100)	0.98 (25)	1.97 (50)	1.02 (26)	5.51 (140)	1.50 (38)	PG16	1.61 (41)	0.24 (6)	0.75 (19)	4.21 (107)	4.8 (2.2)
20		G 1	5.91 (150)	5.28 (134)	1.18 (30)	2.36 (60)	1.30 (33)	6.89 (175)	1.93 (49)	PG29	1.97 (50)	–	–	–	8.8 (4.0)

Notes:
1. Dimensions are in inches (mm) and lbs (kg).
2. Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print.

Dimensions
SRVRP



Control knob with hex. is standard on size 20

Required surface finish on interface area

Size	A	B	ØD	ØE	F	ØG	H	J	K	L	M	N
08	3.58 (91)	3.27 (83)	0.43 (11)	0.26 (6.6)	1.18 (30)	1.14 (29)	–	2.87 (73)	3.39 (86)	3.50 (89)	1.32 (33.5)	1.77 (45)
10	4.27 (108.5)	3.90 (99)	0.43 (11)	0.26 (6.6)	1.38 (35)	1.50 (38)	–	3.50 (89)	4.13 (105)	4.23 (107.5)	1.50 (38)	2.01 (51)
12	5.08 (129)	4.69 (119)	0.43 (11)	0.26 (6.6)	1.77 (45)	1.50 (38)	–	4.13 (105)	4.65 (118)	4.78 (121.5)	1.75 (44.5)	2.36 (60)
16	5.28 (134)	4.92 (125)	0.59 (15)	0.35 (9)	1.97 (50)	1.50 (38)	2.44 (62)	4.88 (124)	5.71 (145)	5.73 (145.5)	2.13 (54)	2.76 (70)

Size	O	P	ØR	ØS	T	U	V	ØW	SW1	SW2	X	Weight
08	0.37 (9.5)	2.13 (54)	0.30 (7.5)	0.50 (12.7)	0.26 (6.5)	0.91 (23)	0.89 (22.5)	PG11	–	–	–	1.9 (0.9)
10	0.40 (10.2)	2.68 (68)	0.39 (10)	0.61 (15.6)	0.25 (6.4)	1.10 (28)	1.18 (30)	PG16	0.20 (5)	0.67 (17)	4.06 (103)	3.1 (1.4)
12	0.49 (12.5)	3.11 (79)	0.51 (13)	0.73 (18.6)	0.26 (6.5)	1.50 (38)	1.16 (29.5)	PG16	0.24 (6)	0.75 (19)	5.0 (127)	5.1 (2.3)
16	0.63 (16)	3.62 (92)	0.67 (17)	0.96 (24.5)	0.41 (10.5)	1.61 (41)	1.54 (39)	PG16	–	–	–	7.3 (3.3)

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