

FLOW CONTROL VALVES

DVP & DRVP Series

Sizes 06 to 40

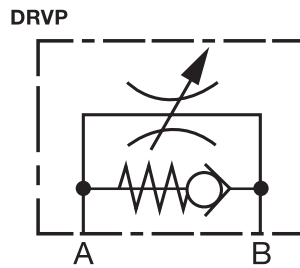
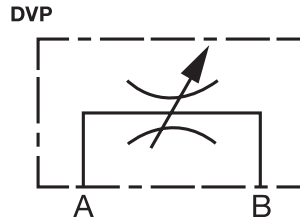


DVP Series
Needle Valves
Manifold Mounted



DRVP Series
Flow Control Valves
Manifold Mounted

Hydraulic Symbols



Up to 80 gpm (300 l/min)
Up to 5000 psi (350 bar)

Description

The DVP is a manifold mounted flow control valve which controls the flow rate by adjusting the cross-section. The flow rate is therefore dependent on the pressure differential and viscosity. Starting with the throttle spindle in the fully closed position, the flow rate increases in accordance with the appropriate curve as the control knob is turned. The flow is controlled in both directions. The scale and colored rings on the top of the control knob enable accurate repeat setting.

The DRVP is a manifold mounted flow control valve which allows the same fine flow adjustment, but in one direction only. Unrestricted flow in the reverse direction is via the built-in check valve – cracking pressure 7 psi (0.5 bar).

Features

- For regulating the speed of loads
- For fine adjustment and shut-off of the flow
- For system-related damping in hydraulic circuits
- To release pressure from accumulator systems
- As an emergency drain for lowering a load
- Spindle patented secured before complete loosening
- An Allen set-screw locks the setting of the knob
- Choice of nine sizes ensures best possible adaptability to the system
- Hardened and ground valve components to ensure minimal wear and extended service life
- Phosphated housing (*standard*)

Technical Specifications

Operating pressure:	max. 5000 psi (350 bar)
Nominal flow:	
DVP, DRVP-06	max. 5 gpm (20 l/min)
DVP, DRVP-08	max. 13 gpm (50 l/min)
DVP, DRVP-10	max. 16 gpm (60 l/min)
DVP, DRVP-12	max. 24 gpm (90 l/min)
DVP, DRVP-16	max. 48 gpm (180 l/min)
DVP, DRVP-20	max. 80 gpm (300 l/min)
DVP, DRVP-25	max. 80 gpm (300 l/min)
DVP, DRVP-30	max. 80 gpm (300 l/min)
DRVP-40	max. 80 gpm (300 l/min)
Cracking Pressure (on DRVP):	7 psi (0.5 bar)
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 mm ² /s to max. 800 mm ² /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 (<i>standard</i>)
Back-up Rings:	PTFE
Weight:	
DVP 06 = 0.4 lbs (0.2 kg)	DRVP 06 = 0.6 lbs (0.3 kg)
DVP 08 = 0.9 lbs (0.4 kg)	DRVP 08 = 1.1 lbs (0.5 kg)
DVP 10 = 1.3 lbs (0.6 kg)	DRVP 10 = 1.8 lbs (0.8 kg)
DVP 12 = 2.2 lbs (1.0 kg)	DRVP 12 = 2.4 lbs (1.1 kg)
DVP 16 = 3.7 lbs (1.7 kg)	DRVP 16 = 5.5 lbs (2.5 kg)
DVP 20 = 7.9 lbs (3.6 kg)	DRVP 20 = 8.6 lbs (3.9 kg)
DVP 25 = 12.1 lbs (5.5 kg)	DRVP 25 = 14.7 lbs (6.7 kg)
DVP 30 = 16.5 lbs (7.5 kg)	DRVP 30 = 24.2 lbs (11 kg)
DVP 40 = 18.0 lbs (8.2 kg)	DRVP 40 = 38.5 lbs (17.5 kg)

Model Code

DRVP - 08 - 01 . X / 25

Flow Control Valve

- DVP = Needle valve
- DRVP = Needle valve with check valve

Nominal Sizes

06, 08, 10, 12, 16, 20, 25, 30

Type

- 01 = standard (housing phosphated, seals FKM)
- 12 = housing nickel-plated, fine throttle spindle in steel with protective dome nut – adjustment with tool (not for size 40)

Other types available on request.

Cracking Pressure (for DRVP Series only)

- (omit) = 7 psi standard
- 25 = 25 psi optional
- 65 = 65 psi optional

Model Codes containing RED are non-standard items

– Minimum quantities may apply

– Contact HYDAC for information and availability

– Not all combinations are available

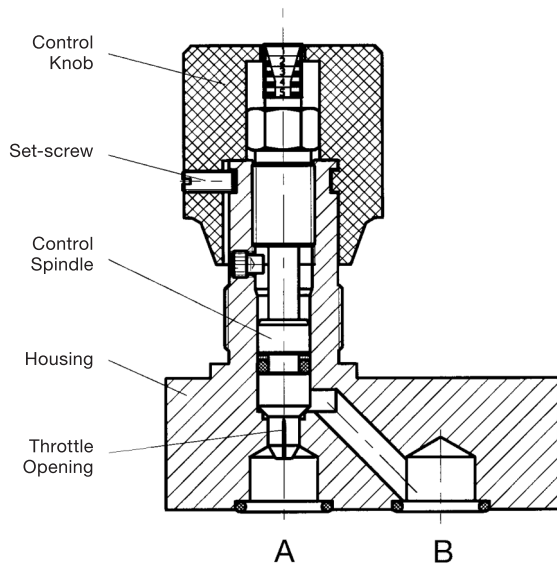
Standard Models

Code	Part No.
DVP-06-01.X	705351
DVP-08-01.X	705353
DVP-10-01.X	705355
DVP-12-01.X	705357
DVP-16-01.X	705359
DVP-20-01.X	705361
DVP-25-01.X	705363
DVP-30-01.X	705365
DRVP-06-01.X	705777
DRVP-08-01.X	705779
DRVP-10-01.X	705781
DRVP-12-01.X	705783
DRVP-16-01.X	705785
DRVP-20-01.X	705787
DRVP-25-01.X	705789
DRVP-30-01.X	705791
DRVP-40-01.X	705792

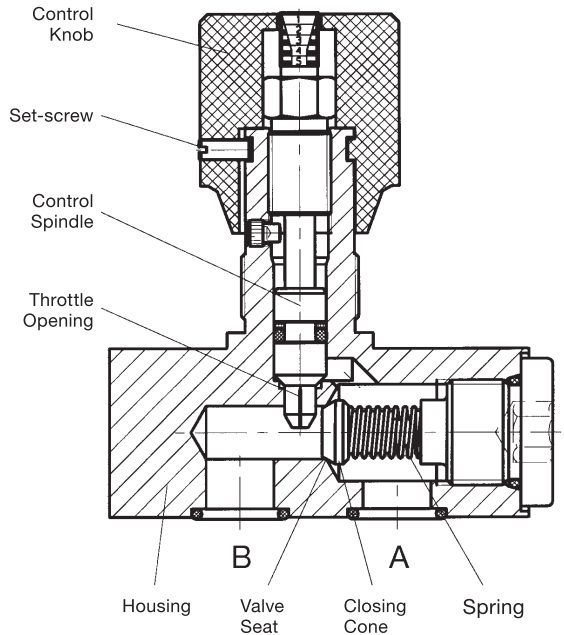
Other models on request

Function

DVP



DRVP



FLOW CONTROL VALVES

Performance

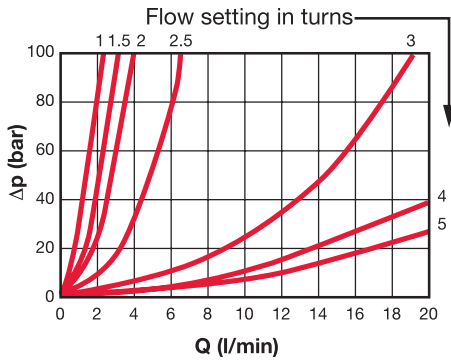
Pressure drop, dependent on flow rate

DVP = flow direction A → B and B → A

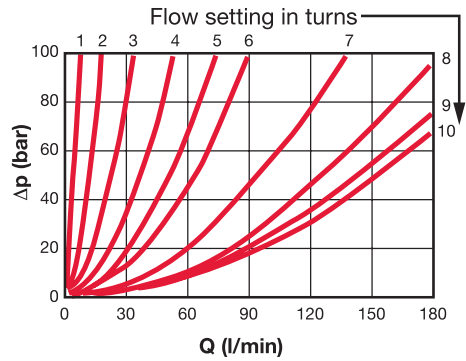
DRVP = flow direction A → B

Pressure differential Δp measured against flow rate Q , measured at constant flow setting, $v = 54 \text{ mm}^2/\text{s}$ and $T_{\text{oil}} = 36 \text{ }^\circ\text{C}$

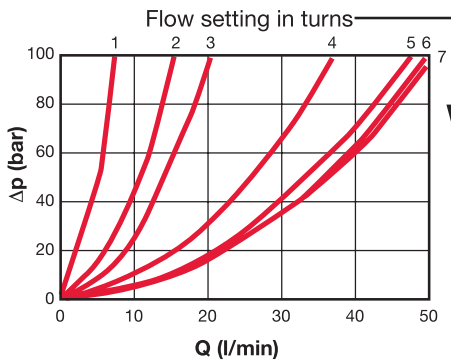
DVP/DRVP-06-01.X



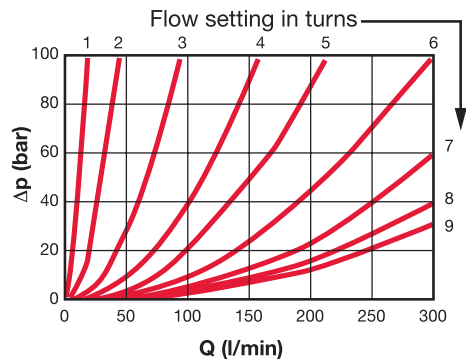
DVP/DRVP-16-01.X



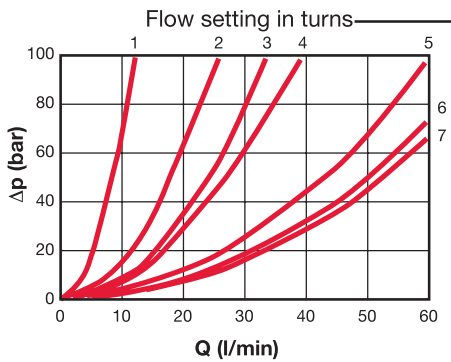
DVP/DRVP-08-01.X



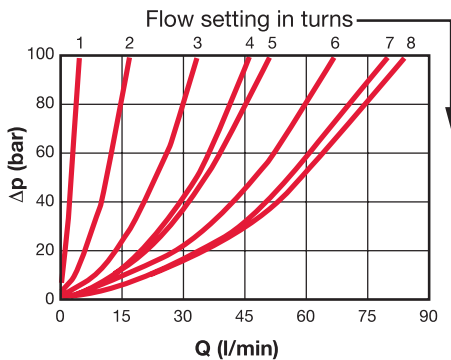
DVP/DRVP-20 to 40-01.X



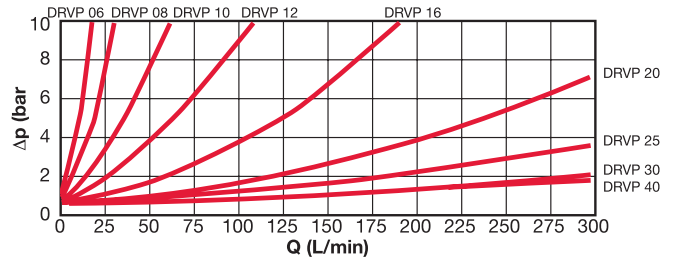
DVP/DRVP-10-01.X



DVP/DRVP-12-01.X

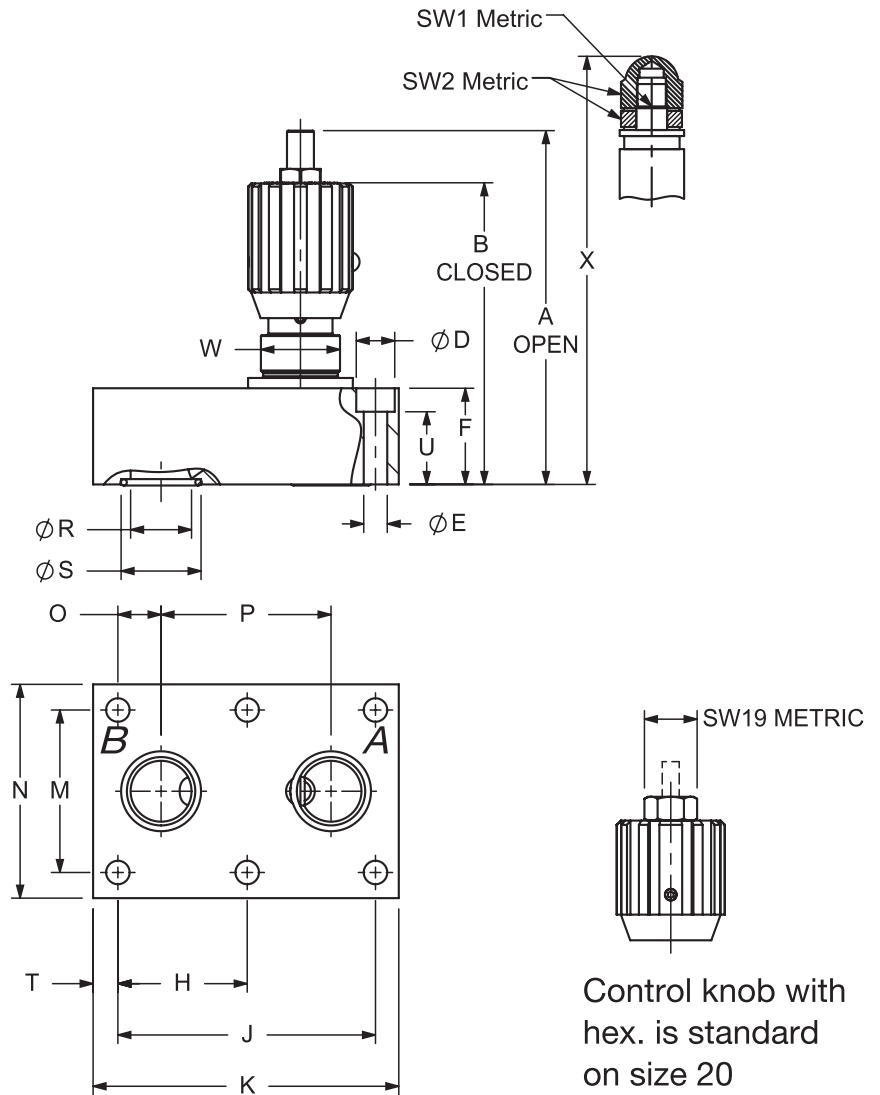


DRVP-06-01.X to DRVP-40-01.X



FLOW CONTROL VALVES

Dimensions DVP Series



Required surface finish on interface area

Size	A	B	ØD	ØE	F	G	H	J	K	M
6	2.48 (63)	2.28 (58)	0.43 (11)	0.26 (6.6)	0.63 (16)	0.94 (24)	-	0.75 (19)	1.38 (35)	1.12 (28.5)
8	3.11 (79)	2.83 (72)	0.43 (11)	0.26 (6.6)	0.79 (20)	-	-	1.38 (35)	1.87 (47.5)	1.32 (33.5)
10	3.31 (84)	3.03 (77)	0.43 (11)	0.26 (6.6)	0.98 (25)	-	-	1.32 (33.5)	2.01 (51)	1.5 (38)
12	3.9 (99)	3.5 (89)	0.43 (11)	0.26 (6.6)	0.98 (25)	-	-	1.5 (38)	2.95 (75)	1.75 (44.5)
16	4.45 (113)	4.06 (103)	0.55 (14)	(0.35) 9	1.18 (30)	1.5 (38)	1.5 (38)	2.99 (76)	3.68 (93.5)	2.13 (54)
20	6.5 (165)	5.83 (148)	0.55 (14)	(0.35) 9	1.77 (45)	1.93 (49)	1.87 (47.5)	3.74 (95)	4.37 (111)	2.36 (60)
25	6.5 (165)	5.83 (148)	0.71 (18)	0.43 (11)	1.77 (45)	1.93 (49)	2.36 (60)	4.74 (120.5)	5.63 (143)	2.99 (76)
30	6.69 (170)	6.02 (153)	0.79 (20)	0.55 (14)	1.97 (50)	1.93 (49)	2.81 (71.5)	5.63 (143)	6.73 (171)	3.62 (92)
40	6.69 (170)	6.02 (153)	0.79 (20)	0.55 (14)	1.97 (50)	1.93 (49)	2.64 (67)	5.26 (133.5)	7.56 (192)	4.37 (111)

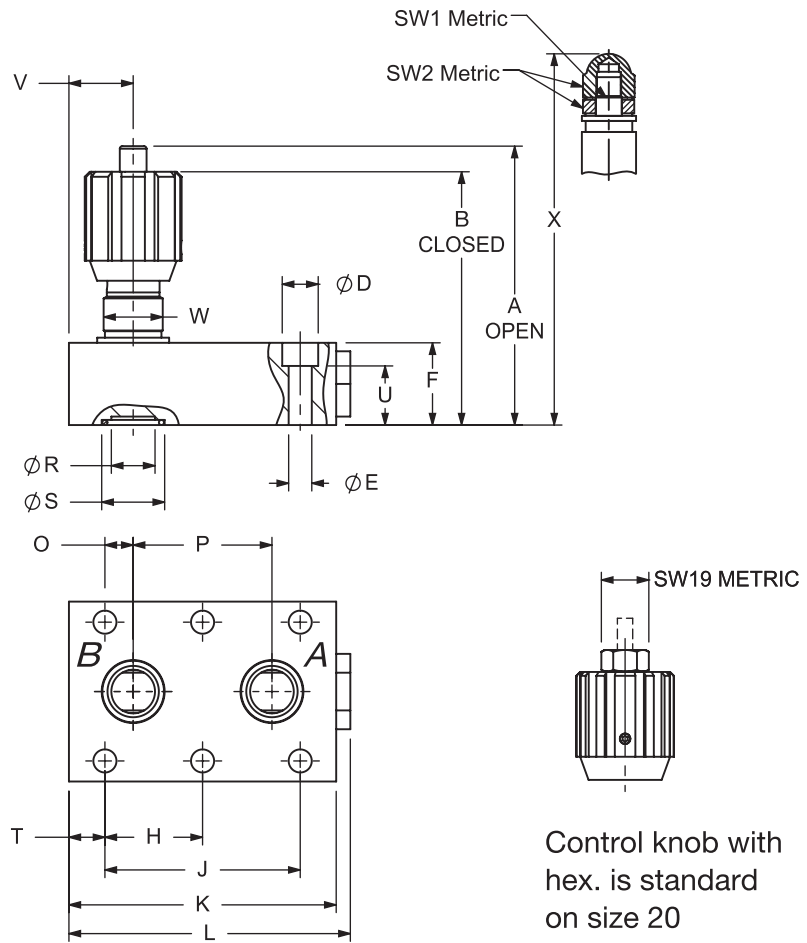
Size	N	O	P	ØR	ØS	T	U	V	W	X	Weight
6	1.63 (41.5)	0.06 (1.5)	0.63 (16)	0.2 (5)	0.38 (9.7)	0.31 (8)	0.35 (9)	0.37 (9.5)	PG7	2.43 (61.7)	0.4 (0.2)
8	1.81 (46)	0.18 (4.5)	1 (25.5)	0.28 (7)	0.5 (12.7)	0.26 (6.5)	0.51 (13)	0.47 (12)	PG11	2.84 (72.2)	0.9 (0.4)
10	2.01 (51)	0.17 (4.2)	1 (25.5)	0.39 (10)	0.61 (15.6)	0.33 (8.5)	0.71 (18)	0.55 (14)	PG11	3.19 (81)	1.3 (0.6)
12	2.26 (57.5)	0.16 (4)	1.18 (30)	0.51 (13)	0.73 (18.6)	0.73 (18.5)	0.71 (18)	0.89 (22.5)	PG16	1.32 (33.5)	2.2 (1)
16	2.76 (70)	0.43 (11)	2.13 (54)	0.67 (17)	0.96 (24.5)	0.33 (8.5)	0.83 (21)	0.77 (19.5)	PG16	4.9 (124.5)	3.7 (1.7)
20	3.01 (76.5)	0.75 (19.1)	2.24 (57)	0.87 (22)	1.2 (30.5)	0.31 (8)	1.42 (36)	1.24 (31.5)	PG29	6.54 (166)	7.9 (3.6)
25	3.94 (100)	0.82 (20.8)	3.13 (79.5)	1.12 (28.5)	1.47 (37.4)	0.43 (11)	1.34 (34)	1.81 (46)	PG29	7.17 (182)	12.1 (5.5)
30	4.41 (112)	0.94 (23.8)	3.74 (95)	1.38 (35)	1.71 (43.4)	0.59 (15)	1.46 (37)	1.54 (39)	PG29	8.27 (210)	16.5 (7.5)
40	5.51 (140)	1 (25.5)	3.5 (89)	1.87 (47.5)	2.26 (57.5)	0.63 (16)	1.46 (37)	2.28 (58)	PG29	0.01 (0.26)	18 (8.2)

Notes:

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

FLOW CONTROL VALVES

Dimensions DRVP Series



Control knob with hex. is standard on size 20

Size	A	B	ØD	ØE	F	G	H	J	K	L	M	N
6	2.48 (63)	2.28 (58)	0.43 (11)	0.26 (6.6)	0.63 (16)	0.94 (24)	-	0.75 (19)	1.63 (41.5)	1.81 (46)	1.12 (28.5)	1.63 (41.5)
8	3.11 (79)	2.83 (72)	0.43 (11)	0.26 (6.6)	0.79 (20)	-	-	1.38 (35)	2.5 (63.5)	2.64 (67)	1.32 (33.5)	1.81 (46)
10	3.31 (84)	3.03 (77)	0.43 (11)	0.26 (6.6)	0.98 (25)	-	-	1.32 (33.5)	2.76 (70)	2.91 (74)	1.5 (38)	2.01 (51)
12	4.17 (106)	3.78 (96)	0.43 (11)	0.26 (6.6)	1.26 (32)	-	-	1.5 (38)	3.15 (80)	3.33 (84.5)	1.75 (44.5)	2.26 (57.5)
16	5.04 (128)	4.65 (118)	0.55 (14)	0.35 (9)	1.77 (45)	1.5 (38)	1.5 (38)	2.99 (76)	4.09 (104)	4.31 (109.5)	2.13 (54)	2.76 (70)
20	6.69 (170)	6.02 (153)	0.55 (14)	0.35 (9)	1.97 (50)	1.93 (49)	1.87 (47.5)	3.74 (95)	5 (127)	5.24 (133)	2.36 (60)	3.01 (76.5)
25	6.89 (175)	6.22 (158)	0.71 (18)	0.43 (11)	2.17 (55)	1.93 (49)	2.36 (60)	4.74 (120.5)	6.5 (165)	6.77 (172)	2.99 (76)	3.94 (100)
30	7.68 (195)	7.01 (178)	0.79 (20)	0.55 (14)	2.95 (75)	1.93 (49)	2.81 (71.5)	5.63 (143)	7.32 (186)	7.72 (196)	3.62 (92)	4.41 (112)
40	8.66 (220)	7.99 (203)	0.79 (20)	0.55 (14)	3.94 (100)	1.93 (49)	2.64 (67)	5.26 (133.5)	7.56 (192)	7.91 (201)	4.37 (111)	5.51 (140)

Size	O	P	ØR	ØS	T	U	V	W	SW1	SW2	X	Weight
6	0.06 (1.6)	0.63 (16)	0.2 (5)	0.38 (9.7)	0.25 (6.4)	0.35 (9)	0.53 (13.5)	PG7	-	-	2.43 (61.7)	0.6 (0.26)
8	0.19 (4.8)	1 (25.5)	0.28 (7)	0.5 (12.7)	0.56 (14.2)	0.51 (13)	1.22 (31)	PG11	-	-	2.84 (72.2)	1.1 (0.5)
10	0.16 (4)	1 (25.5)	0.39 (10)	0.61 (15.6)	0.71 (18)	0.71 (18)	1.16 (29.5)	PG11	-	-	3.19 (81)	1.8 (0.8)
12	0.16 (4)	1.18 (30)	0.51 (13)	0.73 (18.6)	0.83 (21)	0.98 (25)	1.44 (36.5)	PG16	6	13	1.32 (33.5)	2.4 (1.1)
16	0.43 (11)	2.13 (54)	0.67 (17)	0.96 (24.5)	0.55 (14)	1.42 (36)	1.93 (49)	PG16	6	17	4.9 (124.5)	5.5 (2.5)
20	0.75 (19)	2.24 (57)	0.87 (22)	1.2 (30.5)	0.63 (16)	1.61 (41)	1.93 (49)	PG29	8	19	5.91 (150)	8.6 (3.9)
25	0.81 (20.6)	3.13 (79.5)	1.12 (28.5)	1.47 (37.4)	0.59 (15)	1.73 (44)	3.03 (77)	PG29	-	-	7.17 (182)	14.7 (6.7)
30	0.94 (23.8)	3.74 (95)	1.38 (35)	1.71 (43.4)	0.59 (15)	2.44 (62)	3.35 (85)	PG29	-	-	8.27 (210)	24.2 (11)
40	1 (25.5)	3.5 (89)	1.87 (47.5)	2.26 (57.5)	0.63 (16)	3.43 (87)	2.52 (64)	PG29	-	-	0.01 (0.26)	38.5 (17.5)

Notes:

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