

DENISON HYDRAULICS

Throttle Valves with Check

Series DRV 7



Publ. 5-EN 4100-A, replaces 5-EN 410-A

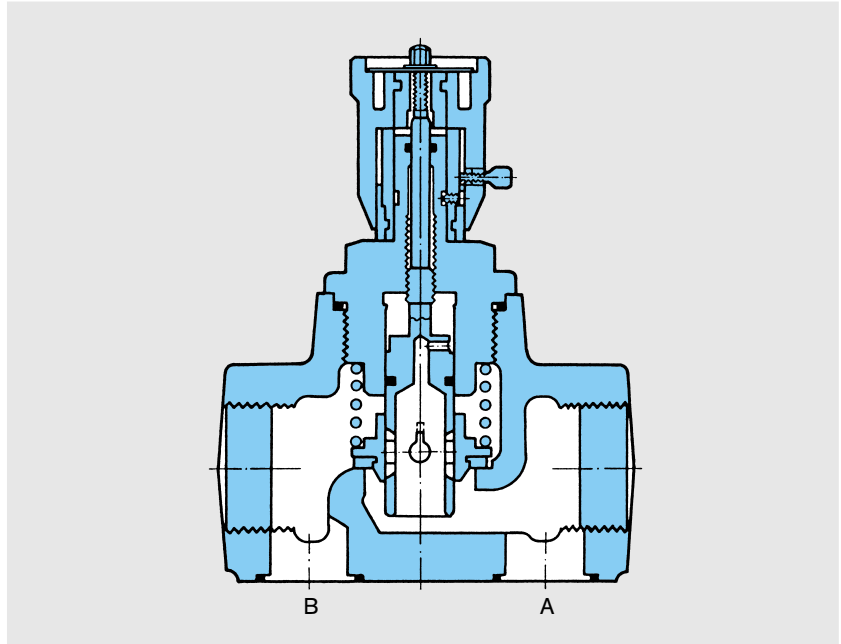
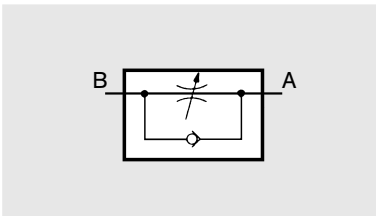
DENISON Hydraulics

FEATURES, SYMBOL, DESCRIPTION

FEATURES

- Heavy duty industrial valve.
- All sizes up to 350 bar operating pressure.
- Valve also adjustable under pressure.
- Subplate and threaded body valves as well as cartridge types.
- Adjusting scale included in standard version.
- Every valve is factory tested prior to delivery.
- Worldwide DENISON service.

SYMBOL



DESCRIPTION

DENISON Throttle Valves with check offer an easy and extremely sensitive adjustment of flow.

Flow limitation is from B→A, through slots arranged in a cylindrical hollow spool. Their design guarantees extreme sensitiveness, also at low valve openings. On the cylindrical hollow spool glides a poppet including a seal. At the opposite flow direction A→B this poppet acts on the hollow spool against the light spring (check valve function). In this direction we have free flow.

In the throttle function, the scale ensures a precise repeating accuracy of the set values. A locking screw offers security against shifting.

TECHNICAL DATA

GENERAL

- Type of unit Throttle valve with integral check, adjustable
- Design Spool type valve with metering groove
- Type of connection Direct by thread or indirect via subplate respectively manifold
- Weight DRV 7-08 = 1.7 kg
DRV 7-16 = 3.5 kg
DRV 7-24 = 7.8 kg
- Mounting position Optional
- Direction of flow B→A metered flow
A→B free flow
- Ambient temperature range -20 °C...+60 °C

HYDRAULIC CHARACTERISTICS

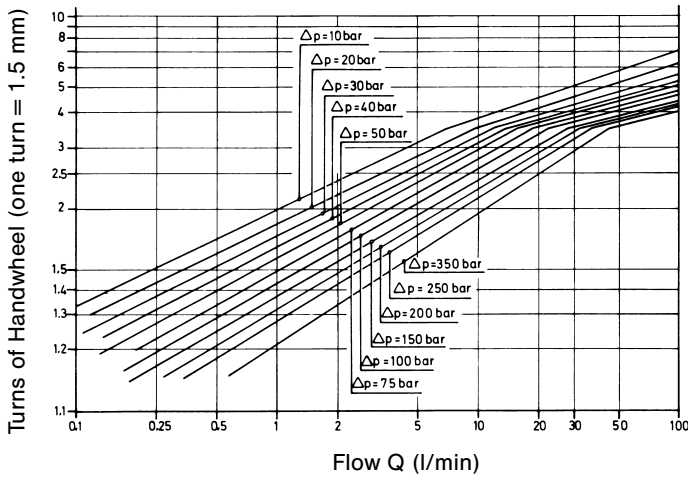
- Operating pressure range – inlet 0...350 bar
– outlet 0...350 bar
- Cracking pressure Approx. 2 bar
- Fluid Mineral oil according to DIN 51524/25
For other fluids please consult DENISON
- Fluid temperature range -18 °C...+80 °C
- Viscosity range Unlimited

TYPE OF ACTUATOR

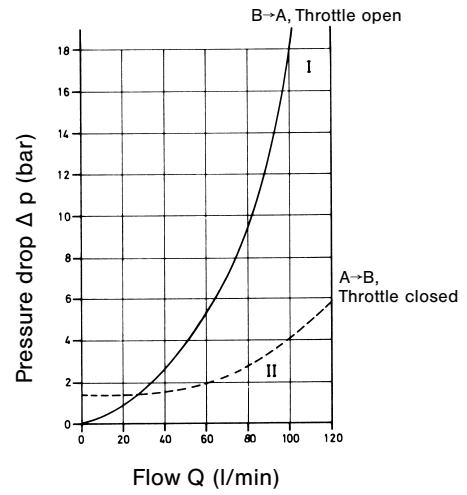
- Adjustment Manual
- Operating torque Approx. 300 Ncm (at $\Delta p = 210$ bar)
Adjustment should be avoided above 210 bar

CURVES

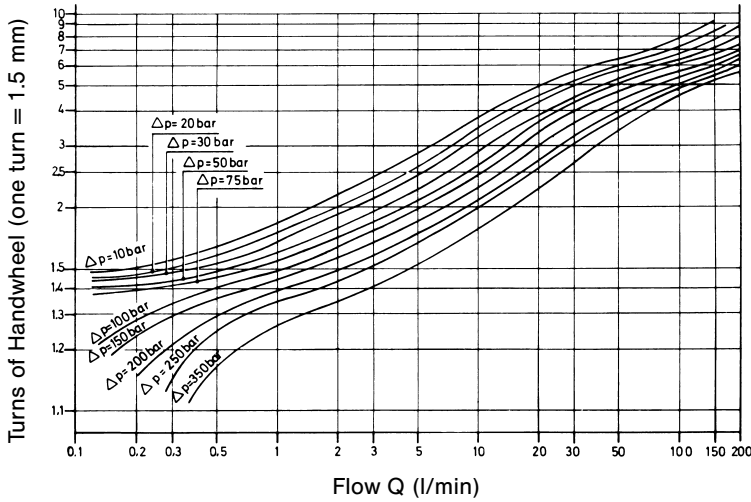
Stroke/Flow Characteristics DRV 7-08
Direction of flow B→A



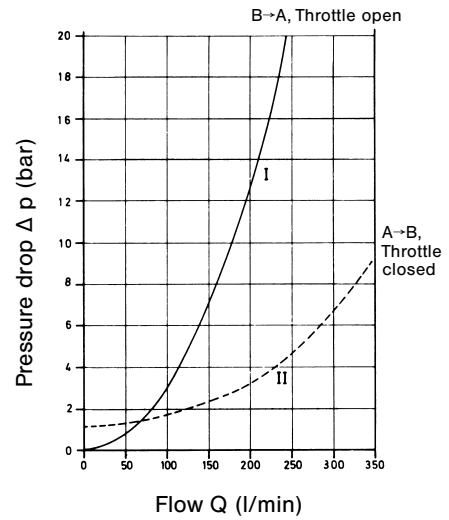
Δ p-Q-Characteristics DRV 7-08



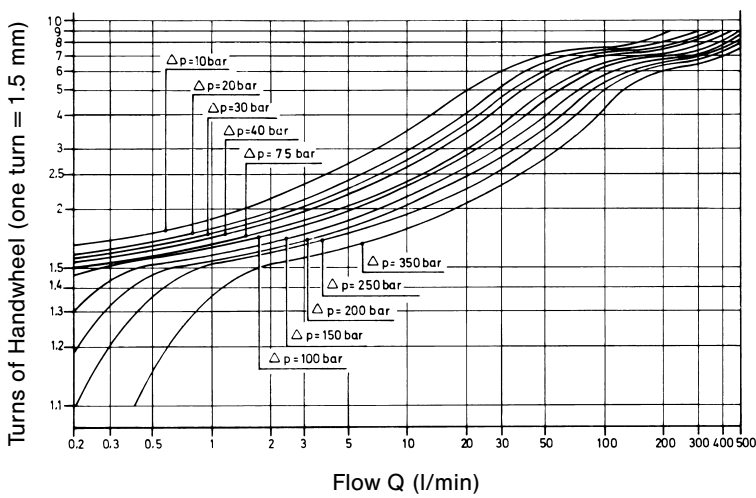
Stroke/Flow Characteristics DRV 7-16
Direction of flow B→A



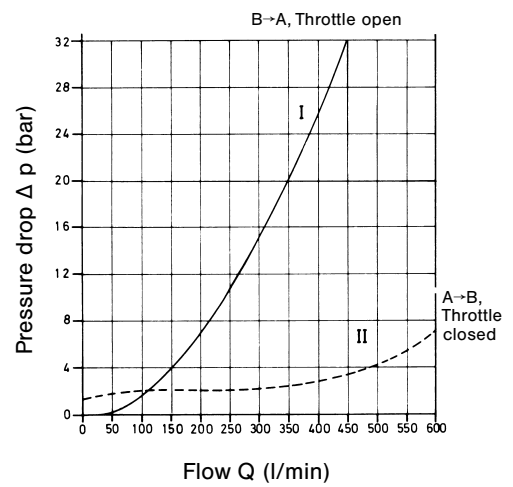
Δ p-Q-Characteristics DRV 7-16



Stroke/Flow Characteristics DRV 7-24
Direction of flow B→A



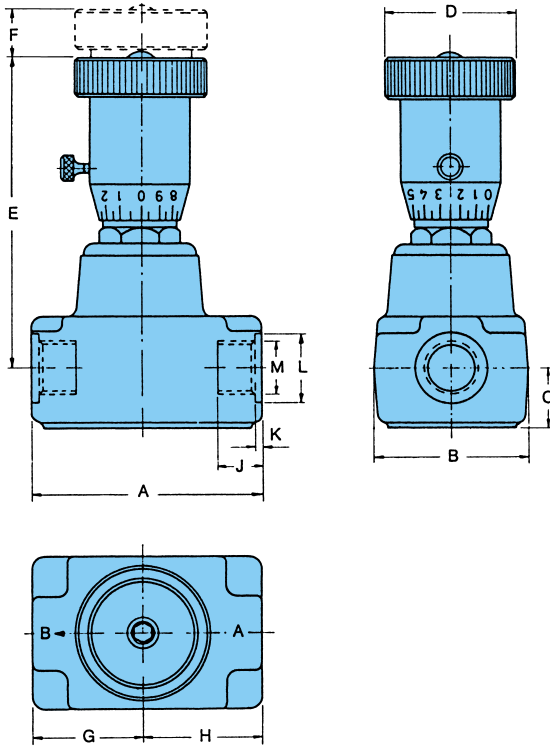
Δ p-Q-Characteristics DRV 7-24



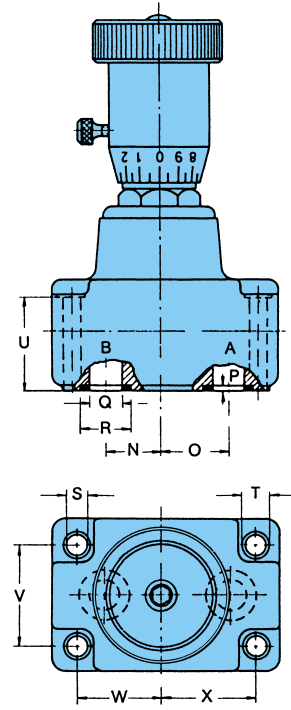
All curves are typical and results of tests. Oil temperature = 50°C, oil viscosity = 35 cSt.

DIMENSIONS, ORDERING CODE FOR BODY TYPE VALVES

Threaded Body Valve



Subplate Body Valve



DIMENSIONS

	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
DRV 7-08	85	55	23	50	119	12	40	45	16	2	27	G1/2"	21	26	2	12.5	18.4	7	11	35	38	32	37
DRV 7-16	105	72	33	50	126	14	50	55	20	2	40	G1"	26	31	2.5	20	29.5	9.5	14.5	53	50	40	45
DRV 7-24	145	100	41	50	146	15	70	75	25	2	56	G1 1/2"	40	45	2.5	28	38.8	11.5	17.5	66	72	57	62

ORDERING CODE

Model No.: DRV 7 - 08 - 5 . 2

Series _____

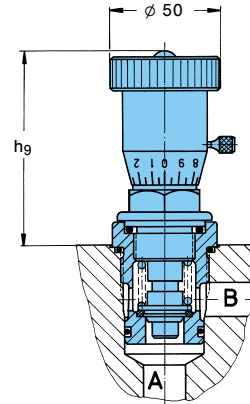
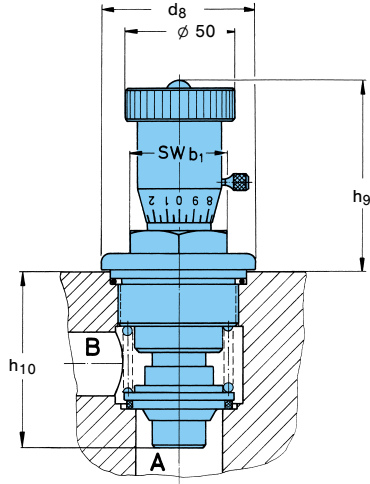
Size _____

08 = 1/2"
 16 = 1"
 24 = 1 1/2"

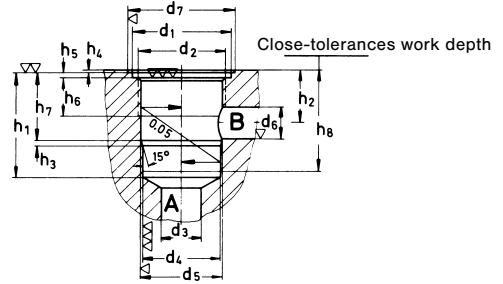
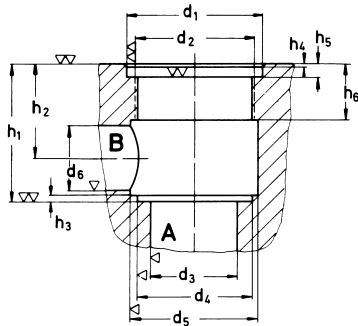
Type of mounting _____

3 = Subplate body
 6 = Threaded body

DIMENSIONS, ORDERING CODE FOR CARTRIDGE TYPE VALVES



with Intermediate Sleeve
(only for DRV 7-08 (1/2"))



DIMENSIONS

	DRV 7-08 w/o inter- mediate sleeve	DRV 7-08 with inter- mediate sleeve	DRV 7-16	DRV 7-24
b ₁	SW 27	SW 27	SW 36	SW 46
d ₁ ∅	37 ^{H8}	45.5 +0.2	42 ^{H8}	62 ^{H8}
d ₂	M 27 x 1.5	M 40 x 1.5	M 36 x 1.5	M 55 x 1.5
d ₃ ∅	18	20	25	40
d ₄ ∅	25	36 ^{H8}	33	53
d ₅ ∅	32	37 ⁺¹	40	58
d ₆ ∅	20	15	25	30
d ₇ ∅	-	49	-	-
d ₈ ∅	43	43	50	70
h ₁	43 ± 0.2	48	48 ± 0.2	63 ± 0.2
h ₂	30	24	33.5	43
h ₃	1	2	1	2.5
h ₄	1 x 45°	0.5	1 x 45°	1 x 45°
h ₅	5.5	1.8 ± 0.1	5.5	5.5
h ₆	18	18	20	25
h ₇	-	31	-	-
h ₈	-	45	-	-
h ₉ max	90	102	94	100
h ₁₀ max	53	-	63	80

ORDERING CODE

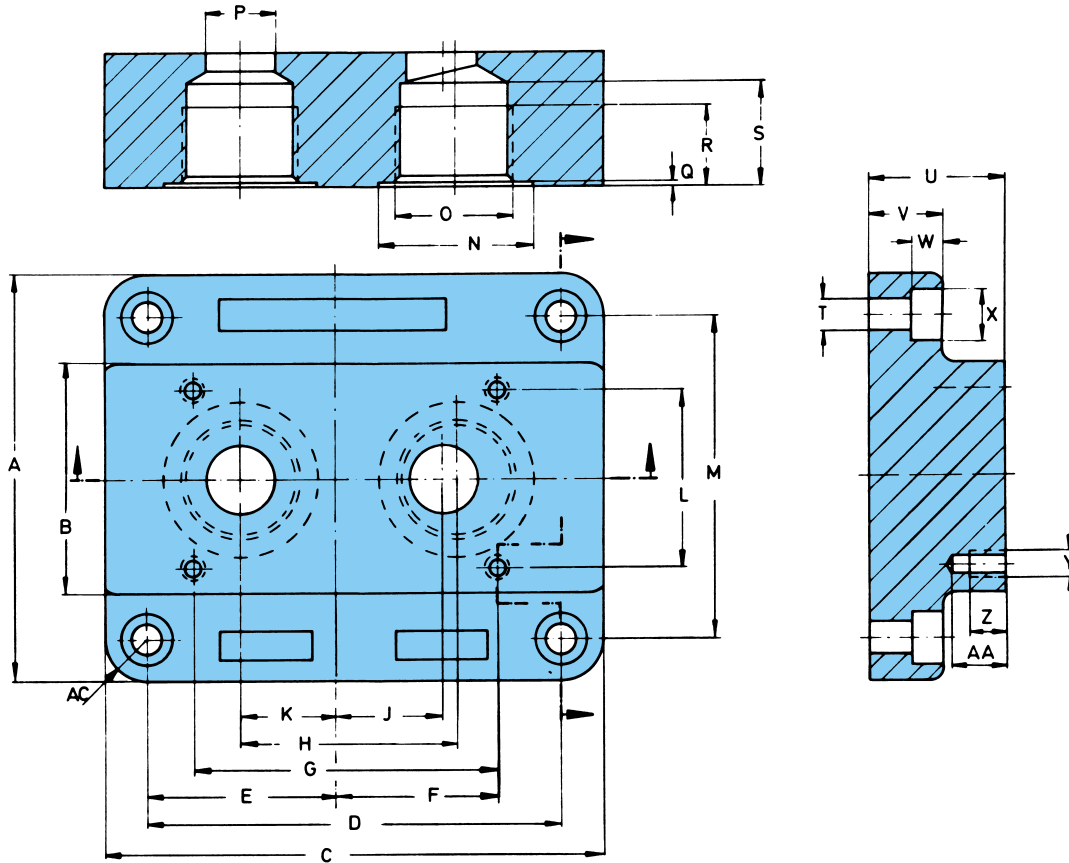
Model No.: DRV 7 - .. - 2 - .

Series _____

Size _____
 08 = 1/2"
 16 = 1"
 24 = 1 1/2"

Accessories _____
 0 = without
 1 = intermediate sleeve
 (only for 1/2" size, optional)

SUBPLATES



Model No.	O	A	B	C	D	E	F	G	H	J	K	L	M	N ϕ	P ϕ	Q	R	S	T ϕ	U	V	W	X ϕ	Y	Z	AA	AC
SS-B-08-G 102	G $\frac{1}{2}$ "	100	49	100	76	36	37	69	47	26	21	38	76	32	12.5	0.5	17.5	25	9.5	38	20	9	14.5	M 6	14	20	12
SS-B-16-G 103	G 1"	105	64	134	110	52	45	85	60	31	26	50	85	43	20	0.5	22.5	28.5	9.5	43	20	9	14.5	M 8	14	20	12
SS-B-24-G 104	G $\frac{1}{2}$ "	135	88	174	150	73	62	119	85	45	40	72	115	57	28	0.5	26.5	34.5	9.5	45	20	9	14.5	M10	18	25	12

Port sizes	Order No.	Model No.			Mounting screws * (4)	
		DRV 7-08	DRV 7-16	DRV 7-24	Dimension	Order No.
G $\frac{1}{2}$ "	S16-39066-0	SS-B-08-G 102			M 6 x 45 DIN 912	700-71416-8
G 1"	S16-39082-0		SS-B-16-G 103		M 8 x 65 DIN 912	700-71433-8
G $\frac{1}{2}$ "	S16-39090-0			SS-B-24-G 104	M 10 x 80 DIN 912	700-71452-8

* Mounting screws are included in subplate order.
For valves ordered without subplate mounting screws must be ordered separately.

The product described is subject to continual development and the manufacturer reserves the right to change the specifications without notice.