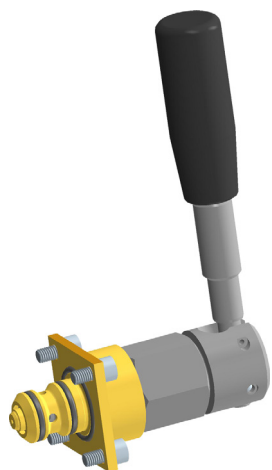


2/2 Cartridge Seat Valve, Size 6

$Q_{max} = 20 \text{ l/min}$, $p_{max} = 315 \text{ bar}$

Bidirectional seat-valve shut-off, direct acting, manually operated

Series W1T... / W1W...



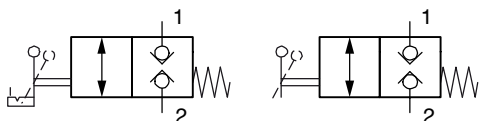
- With bidirectional seat-valve shut-off
- Closed in the non-operated condition
- Guided valve spool and poppet
- Available in two mounting versions
- Hand lever with or without detent feature
- All exposed parts with zinc-nickel plating
- Can be fitted in a line-mounting body

1 Description

The W1T... / W1W... series of hand lever-operated 2/2 directional seat valves are size 6, direct acting, pressure balanced, push-in cartridges. In the normal condition (non-operated), flow is shut off without leakage. The core element operates on the tried and tested principle of the guided poppet, and the guide spool has a seal. Two different mounting versions are available, which allows the designer to choose the insertion depth (flange 10.1 mm or 18 mm). The hand lever can be turned through 360° and is available as a “detentable” (W1T...) or “non-detentable” (W1W...) model. These

valves are predominantly used in certain mobile and industrial applications where leak-tight shut-off functions are crucially important. Examples are where loads, tensions, or clamping forces must be held without leakage. All external parts of the cartridge are zinc-nickel plated to DIN 50 979 and are thus suitable for use in the harshest operating environments. If you intend to manufacture your own cavities or are designing a line-mounting installation, please refer to the section “Related data sheets”.

2 Symbol



W1T...

W1W...



IMPORTANT!

A “non-operated open” function can be created by using the 3/2 cartridge seat valve and the GADA line-mounting body. In this case, ports 2 and 3 are used. Port 1 is plugged.

3 Technical data

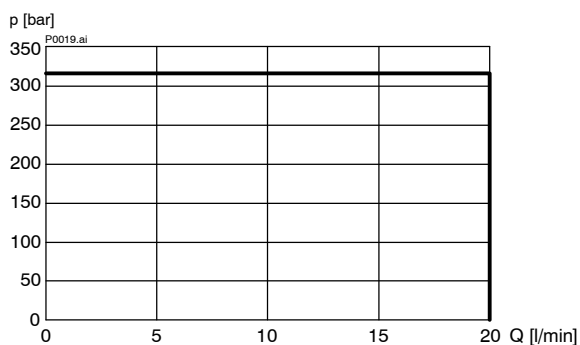
General characteristics	Description, value, unit
Designation	2/2 cartridge seat valve
Design	bidirectional seat-valve shut-off, direct acting, manually operated, poppet and valve-spool design (pressure balanced)
Mounting method	push-in cartridge, 4 mounting bolts M5 x 10
Tightening torque	5.2 Nm \square ±10 %

General characteristics	Description, value, unit
Size	size 6, cavity type AA or cavity type AB
Weight	0.45 kg
Mounting attitude	unrestricted
Ambient temperature range	-25 °C ... +80 °C
Hydraulic characteristics	Description, value, unit
Maximum operating pressure	...315 bar
Maximum flow rate	20 l/min
Flow direction	1 → 2 / 2 → 1, see symbols
Hydraulic fluid	HL and HLP mineral oil to DIN 51 524; for other fluids, please contact BUCHER
Hydraulic fluid temperature range	-25 °C ... +80 °C
Viscosity range	10...650 mm ² /s (cSt), recommended 15...250 mm ² /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 20/18/15
Mechanical characteristics	Description, value, unit
Actuation angle	15°
Mounting attitude	hand lever can be turned through 360°
Design	hand-lever model: - detentable W1T... - non-detentable W1W...

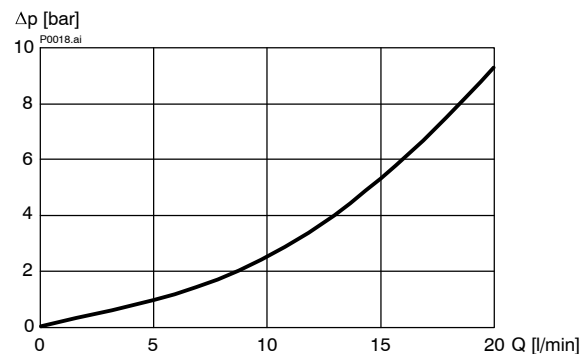
4 Performance graphs

measured with oil viscosity 33 mm²/s (cSt)

$p = f(Q)$ Performance limits

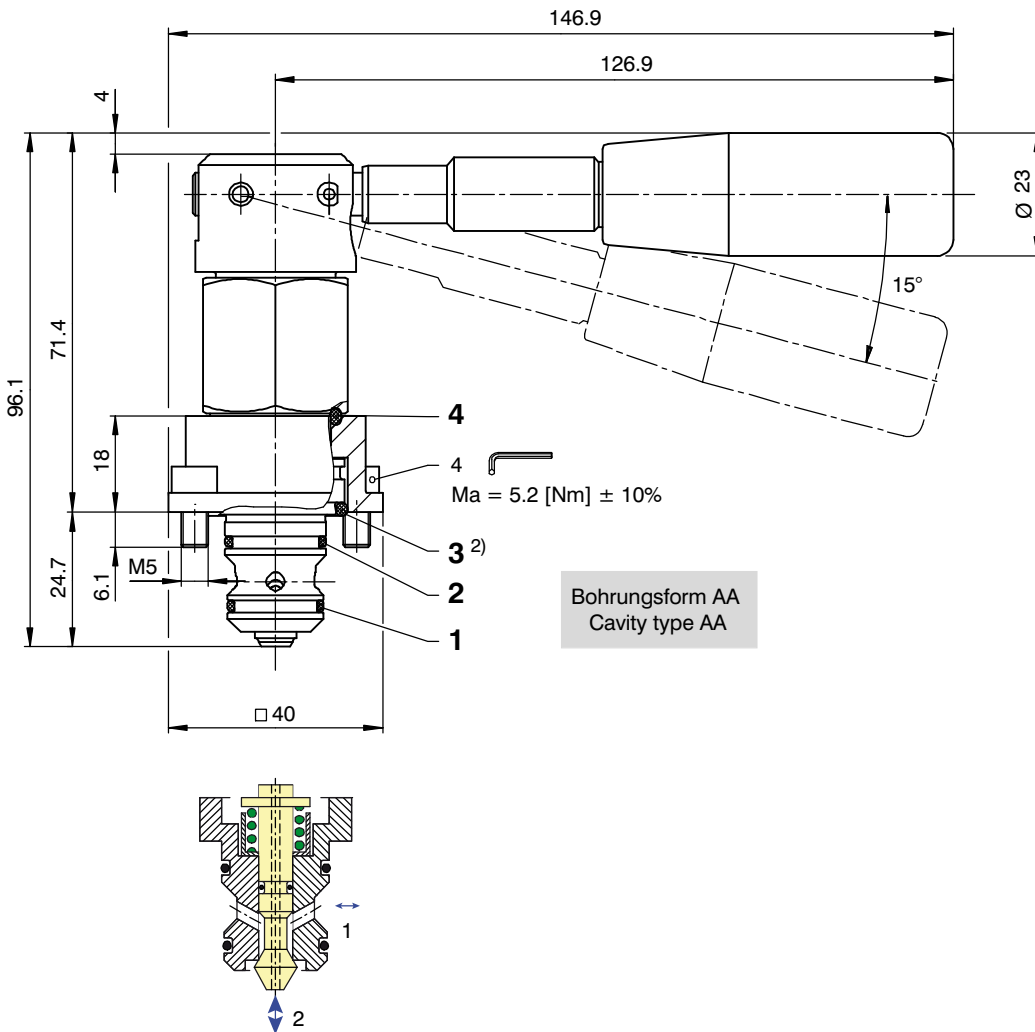


$\Delta p = f(Q)$ Pressure drop - Flow rate characteristic (1 ↔ 2)

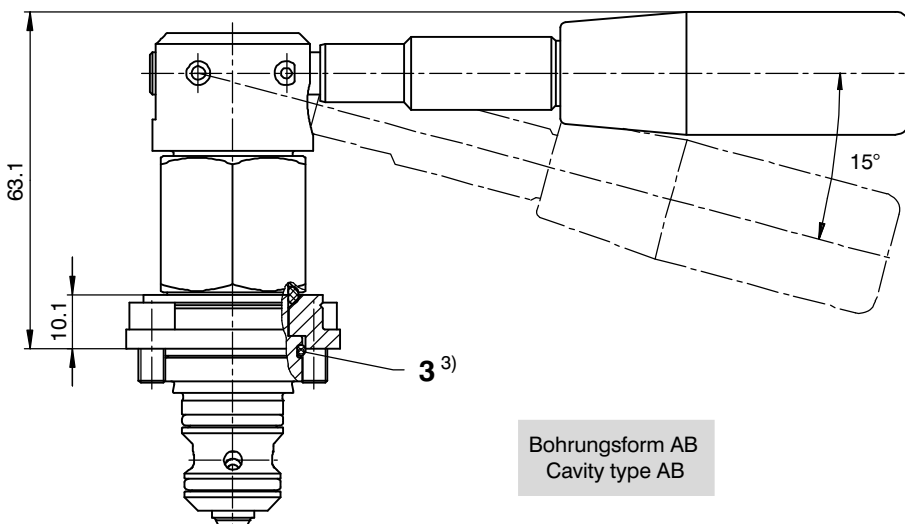


5 Dimensions & sectional view

5.1 Shallow insertion model



5.2 Deep insertion model



6 Installation information



ATTENTION!

Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.



IMPORTANT!

When fitting the cartridges, use the specified tightening torque for the mounting screws. No adjustments are necessary, since the cartridges are set in the factory.



IMPORTANT!

These size 6, 2/2 manually operated directional cartridges can also be fitted in the AC or AD cavities, and in such cases port 3 then has the same function as port 2.

Seal kit NBR no. DS-387-N ¹⁾

Item	Qty. ²⁾	Qty. ³⁾	Description
1	1	1	O-ring no. 015 Ø 14,00 x 1,78 N90
2	1	1	O-ring no. 016 Ø 15,60 x 1,78 N90
3	1	- - -	O-ring no. 116 Ø 18,72 x 2,62 N70
	- - -	1	O-ring no. 021 Ø 23,52 x 1,78 N90
4	2	2	O-ring no. 117 Ø 20,29 x 2,62 N70

¹⁾ Seal kit with FKM (Viton) seals, no. DS-387-V

²⁾ W1TQ... / W1WQ... (shallow insertion model)

³⁾ W1TR... / W1WR... (deep insertion model)

7 Ordering code

Ex.

W1	T	Q	A	_
----	---	---	---	---

- W1 = directional seat valve, non-operated 1 → 2 closed
- T = 2/2 function with hand lever, detentable
- W = 2/2 function with hand lever, non-detentable

Nitrile seals
 Viton seals
 Mounting depth
(Cavity types AA and AB)

- Q S shallow = Not available with line-mounting body
- R T deep = With or without line-mounting body
- A ... Q = standard model - see relevant data sheets
- Z ... R = special features - please consult BUCHER
- 1 ... 9 = design stage, seat valve (omit when ordering new units)

8 Related data sheets

Reference	(Old no.)	Description
400-P-010301	(i-01)	Orifice flow chart
400-P-040011	(i-32)	The form-tool hire programme
400-P-040101	(i-33.1)	Cavity type AA and AB
400-P-040111	(i-33.2)	Cavity type AC and AD
400-P-110315		3/2 cartridge seat valve, series W1U / X..., W1V / Y..., size 6
400-P-730111	(G-2.10)	Line-mounting body, type GABA (G 3/8")
400-P-730121	(G-2.20)	Line-mounting body, type GADA (G 3/8")

Notes

info.ch@bucherhydraulics.com

www.bucherhydraulics.com

© 2015 by Bucher Hydraulics AG Frutigen, CH-3714 Frutigen

All rights reserved.

Data is provided for the purpose of product description only, and must not be construed as warranted characteristics in the legal sense. The information does not relieve users from the duty of conducting their own evaluations and tests. Because the products are subject to continual improvement, we reserve the right to amend the product specifications contained in this catalogue.

Classification: 430.300.-.305.310.355