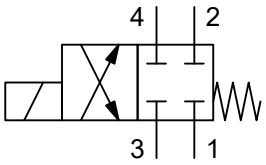
Directional valve 4-way/2-position

Q_{max} = 40 l/min, p_{max} = 350 bar
Direct acting, spool type, switching solenoid
Type series: WKDP42AD-8T...

- Screw-in cartridge valve for cavity AT/C1040
- All external parts with zinc-nickel plating according to DIN EN ISO 19598
- Installation in threaded port body type GAT-12
- Reliable switching, even after long dwell times
- Optional with manual override
- Different spool options (center position)
- Various plug-connector systems and voltages are available
- High pressure wet-armature solenoids
- The slip-on coil can be rotated, and it can be replaced without opening the hydraulic envelope

Symbol



Description

The directional control valves, series WKDP42AD-8T-..., are size 8 / SAE 10, screw-in cartridge valves with a seated pilot stage and an 7/8-14 UNF-2A mounting thread. They are designed on the proven sliding-spool principle. These screw-in valves are mainly used in mobile and stationary applications for the pilot or directional control of consumers such as hydraulic motors and hydraulic cylinders. The slip-on coils can be replaced without opening the hydraulic envelope and can be positioned at any angle through 360°. All external parts of the screw-in valves are zinc-nickel plated and are thus suitable for use in the harshest operating environments. For installation and further information, please refer to the section related data sheets.

Technical data

General characteristics	Description, value, unit
Function group	directional valve
Function	4-way/2-position
Design	screw-in cartridge valve
Controls	switching solenoid
Characteristic	direct acting, spool type
MTTFd value	150 years
Construction size	NG 8 / SAE 10
Thread size	7/8-14 UNF-2A
Mounting attitude	unrestricted
Weight	0.63 kg
Cavity acc. factory standard	AT/C1040
Tightening torque steel	80 Nm
Tightening torque aluminium	80 Nm
Tightening torque tolerance	± 10 %
Minimum ambient temperature	- 30 °C
Maximum ambient temperature	+ 50 °C
Surface protection	all external parts with zinc-nickel plating according to DIN EN ISO 19598
Sealing material	see ordering code

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	350 bar
Maximum flow rate	40 l/min
Flow direction	see symbol
Hydraulic fluid	HL and HLP mineral oil according to DIN 51 524; other fluids on request!
Minimum fluid temperature	- 30 °C
Maximum fluid temperature	+ 80 °C
Viscosity range	10 ... 500 mm^2/s (cSt)
Recommended viscosity range	15 ... 250 mm^2/s (cSt)
Minimum fluid cleanliness (cleanlineless class according to ISO 4406:1999)	class 20/18/15

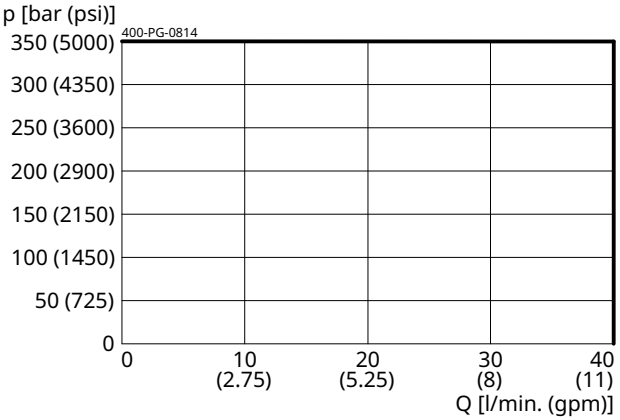
Electric characteristics	Description, value, unit
Actuator type	solenoid coil
Solenoid coils type	36X48/16.1
Supply voltage DC	12/24 V DC
Supply voltage tolerance	± 10 %
Nominal power consumption	19 W
Switching time	Switching time measured at: UN: Δp = 200 bar; Q = 30 l/min; TAmbient = 20 °C; ϑ = 46 mm2/s 50 ms (energizing) 50 ms (de-energizing)
Relative duty cycle	100 %
Electrical connection coil	several connection types available, see ordering code
Protection class solenoid coil to ISO 20 653 / EN 60 529	several classes of protection available, see ordering code (with appropriate mating connector and proper fitting and sealing)

NOTE!
The switching time can be strongly dependent on flow rate, pressure, oil viscosity and the dwell time under pressure. In practice, the switching time may therefore deviate from the specified value range.

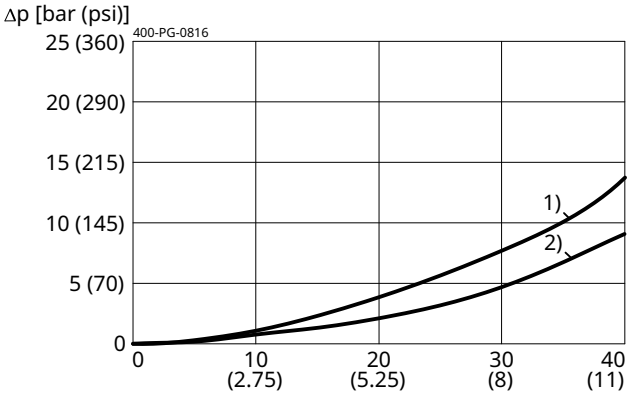
Performance graphs

measured with oil viscosity 33.0 mm²/s (cSt), coil at steady-state temperature and 10 % undervoltage

p = f (Q) Performance limit



Δp = f (Q) Pressure drop-flow rate characteristic

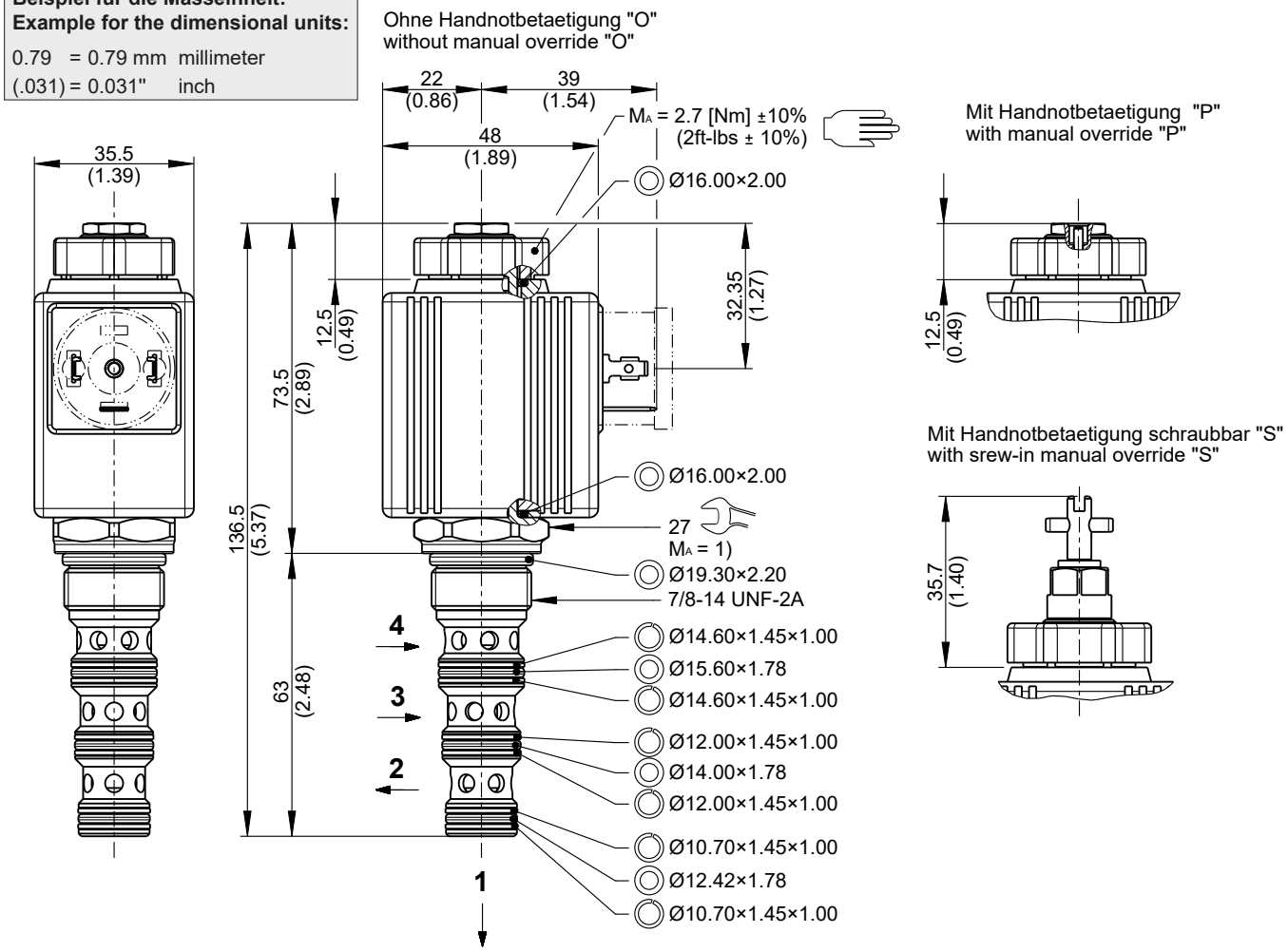


1) 1→4 / 4→1
2) 2→3 / 3→2

Installation

Beispiel für die Masseinheit:
Example for the dimensional units:

0.79 = 0.79 mm millimeter
(.031) = 0.031" inch

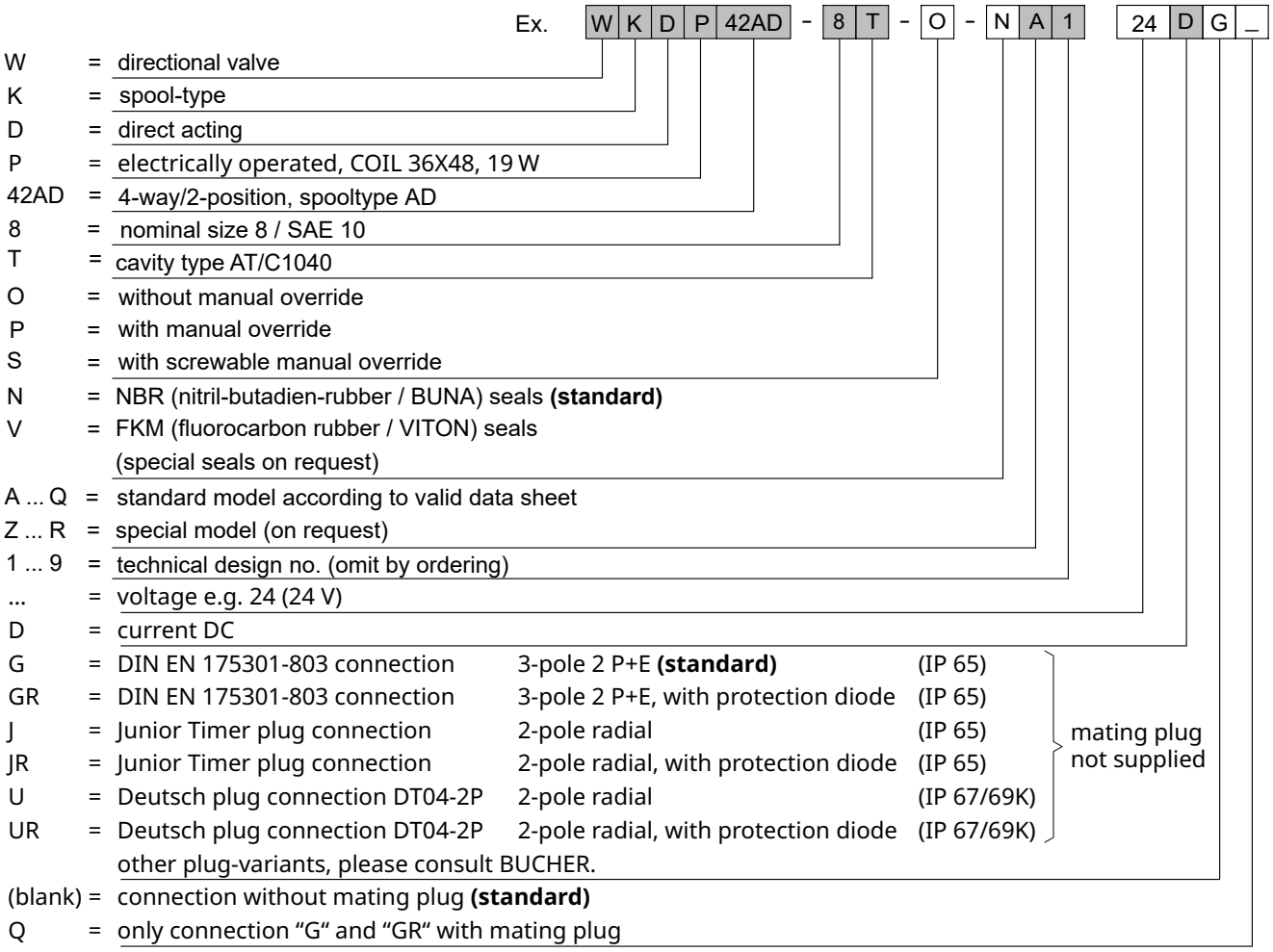


IMPORTANT!
1) When fitting the screw-in cartridge valve, use the specified tightening torque. The value can be found in the chapter "Technical data".

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.

NOTE!
The seals are not available individually. The seal kit order number can be found in the chapter "Technical data".

Ordering code



IMPORTANT!
Not every combination of voltage values and plug connections available.

Related data sheets

Reference	Description
400-P-040011	form tools
400-P-040301	cavity AT/C1040
400-P-738131	threaded port body GAT-12-...
400-P-120112	solenoid coil 36X48/16.1
400-P-010101	MTTFd Values for Hydraulic Valves

info.ch@bucherhydraulics.com **www.bucherhydraulics.com**