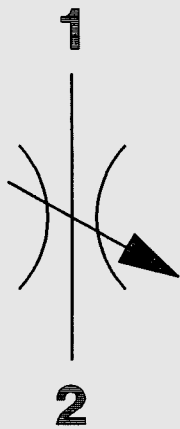


**HYDAC**

**INTERNATIONAL**

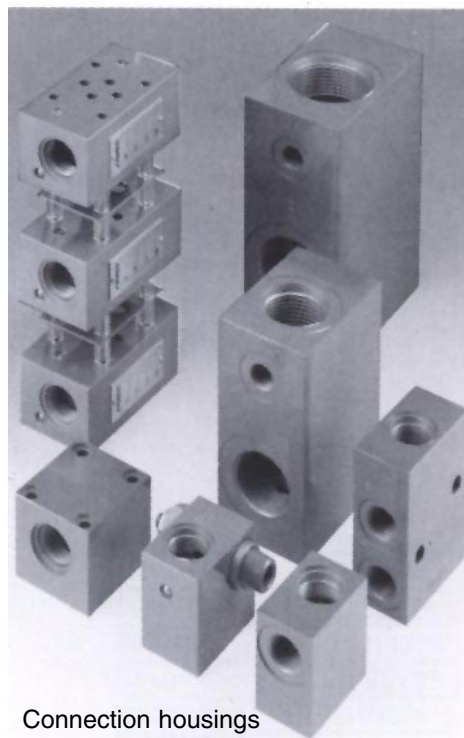
# Flow Control Valves SD10



up to 350 bar  
up to 80 l/min



Cartridge valve



Connection housings

# 1. DESCRIPTION

## 1.1. GENERAL

According to DIN-ISO 1219, HYDAC flow control valves SD10 are valves for oil hydraulic systems to control the flow rate by means of an adjustable cross section.

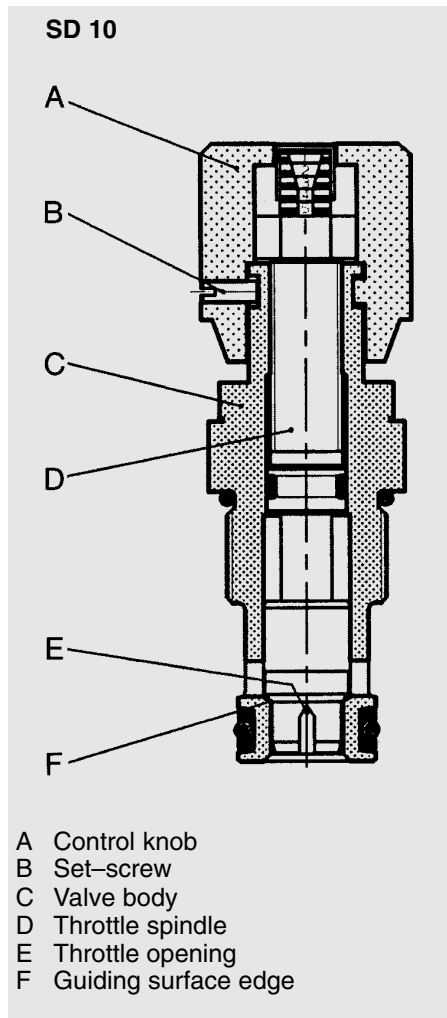
The flow rate depends on the pressure differential and the viscosity.

HYDAC flow control valves SD10 enable a fine adjustment of the flow rate due to a specially designed throttle mechanism.

The flow control and shut-off function works in both directions.

Further advantages of these valves are:

- standardised installation dimensions mean that they are flexible and suited to many different applications,
- their compact design enables space-saving installation in connection housings, control blocks, etc. especially where the installation space is confined,
- flow control spindle safety mechanism prevents spindle from working loose,
- a set-screw locks the setting,
- simple assembly due to service-friendly cartridge valve technology,
- a wide range of connection housings is available for inline and sandwich mounting.



## 1.2. FUNCTION

HYDAC flow control valves basically consist of a valve body, a throttle spindle and the control knob.

Starting with the throttle spindle in the fully closed position when the flow is shut off, the flow rate increases in accordance with the appropriate graphs (see point 2.2.8.) as the control knob is turned.

The control knob with its coloured scale and scale rings enables accurate repetition of the settings. The size of the coloured triangle on the rings also indicates the size of the flow area. An increase in the size of the coloured triangle corresponds to an increase in flow area. A set-screw locks the setting. The flow is controlled in both directions.

## 1.3. APPLICATION

HYDAC flow control valves SD10 are used:

- for regulating the speed of loads,
- for system-related damping in hydraulic circuits,
- for pressure-dependent control of flow rates in general,
- to release pressure from accumulator systems,
- as an emergency drain for lowering a load.

Areas of application could be, for example:

- hydraulic units
- elevating platforms
- mobile hydraulics

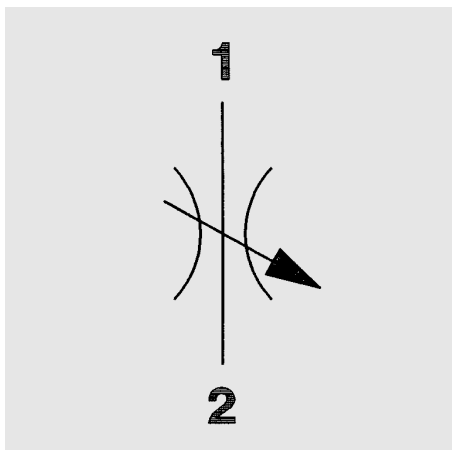
## 1.4. NOTE

When fitting the valves into control blocks and housings the recommended torque ratings must be taken into account (see point 3).

## 2. TECHNICAL SPECIFICATIONS

### 2.1. GENERAL

#### 2.1.1. Designation and symbol Flow control valve SD10



#### 2.1.2. Model code (also order example)

SD 10120 - 01 X

**Designation** \_\_\_\_\_  
SD = flow control valve

**Installation dimensions** \_\_\_\_\_  
10120 = 2-way installation dimensions  
(see point 3)

**Type** \_\_\_\_\_  
01 = standard

**Series** \_\_\_\_\_  
(determined by manufacturer)

#### Standard models:

Stock no. (= order no.)	Model code
710390	SD10120-01X

Please quote stock number when ordering.  
Delivery for non-standard models is longer and the price is higher.

- 2.1.3. **Type of construction**  
SD10: slot type flow control valve  
with shut-off function
- 2.1.4. **Type of mounting**  
Cartridge valve
- 2.1.5. **Mounting position**  
Optional
- 2.1.6. **Weight**  
SD10 ... 0.17 kg
- 2.1.7. **Direction of flow**  
Optional  
preferably from 1 to 2

- 2.1.8. **Ambient temperature range**  
min. - 20 °C  
max. + 80 °C

- 2.1.9. **Materials**  
Valve body: free-cutting steel  
Flow control spindle:  
free-cutting steel  
Control knob: polyamide

- 2.1.10. **Seals**  
compatible with hydraulic oil to  
DIN 51524 Part 1 and 2

- 2.1.11. **Type of connection**  
Suitable connection housings  
with installation dimensions  
10120 are available in various  
models.  
See separate housing brochure  
no. E 5.252../..

## 2.2. HYDRAULIC DETAILS

### 2.2.1. Nominal pressure

$p_N = 350$  bar  
across all ports

### 2.2.2. Operating fluid

Mineral oil to DIN 51524  
Part 1 and Part 2

### 2.2.3. Operating fluid temperature range

min.  $-20$  °C  
max.  $+80$  °C

### 2.2.4. Viscosity range

min.  $2.8$  mm<sup>2</sup>/s  
max.  $800$  mm<sup>2</sup>/s

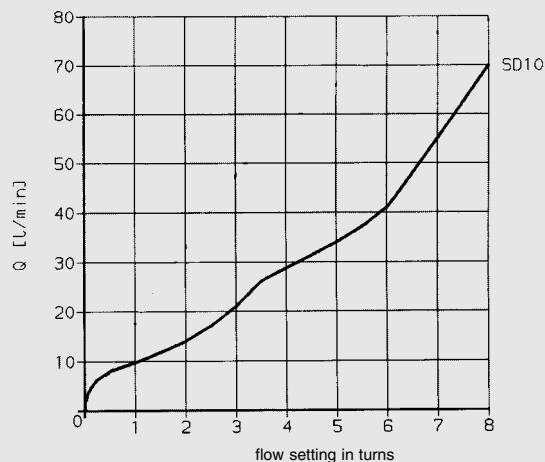
### 2.2.5. Filtration

Max. permissible contamination level of the operating fluid to NAS 1638 Class 10. We therefore recommend a filter with a minimum retention rate of  $\beta_{20} \geq 100$ . The fitting of filters and regular replacement of elements guarantees correct functioning, reduces wear and tear and increases the service life.

### 2.2.6. Type of adjustment

Manually with control knob

## 2.2.7. Opening characteristics

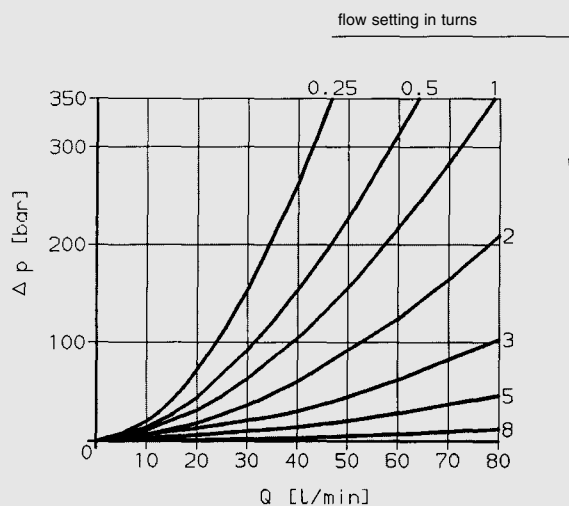


$\Delta p = 10$  bar = constant

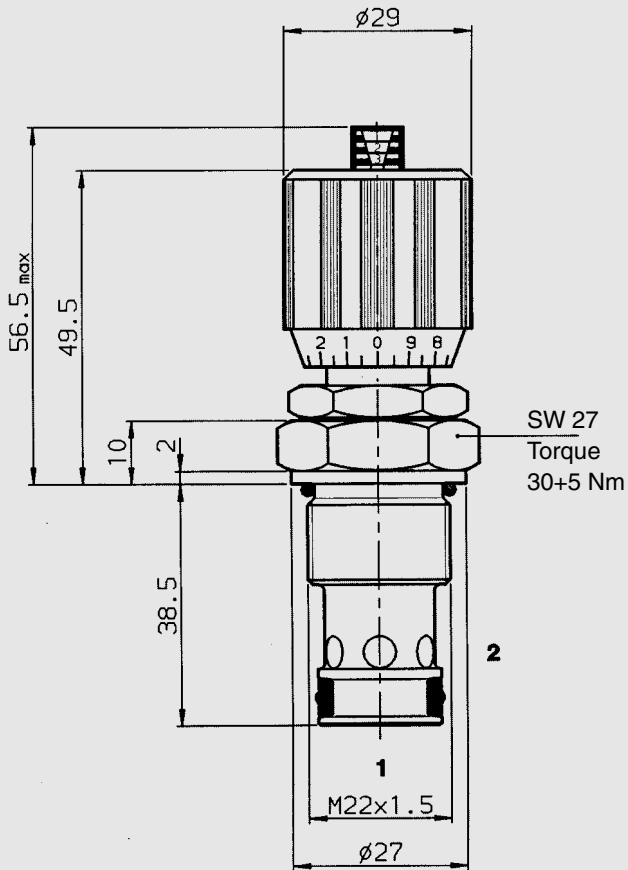
## 2.2.8. Pressure drop, dependent on flow rate

### SD10120-01X

measured at  $v = 36$  mm<sup>2</sup>/s and  $t_{oil} = 45$  °C



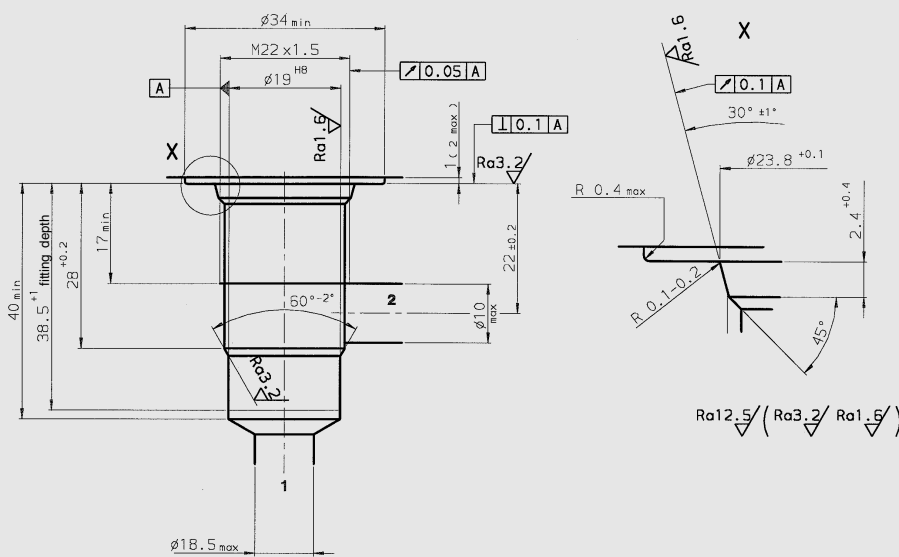
### 3. DIMENSIONS SD10120



### 4. NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

### Installation dimensions 10120



### Cartridge form tools

Tool	Stock no.
Countersink	170418
Reamer	1014206
Tap	1002627
Plug gauge	169394