



Cartridge valves in cryogenic temperature (TT) version

low temperature up to -40°C

FUNCTION

The TT extension in the model code generally characterises the valves' suitability for applications involving cryogenic temperatures.

It must be noted that the operating fluid's viscosity must also be within the specified range to ensure that the valve works perfectly.

Disregard can also cause functional restrictions during cold start.

Please refer to the brochure of the relevant standard valve for the maximum permitted pressure value (p_{max}) and viscosity.

Note:

Substantially reduced life time possible during permanent load under TT-conditions.

GENERAL

- Extension of the cartridge valves' area of application for applications involving cryogenic temperatures down to -40°C
- Use of suitable sealing materials
- Suitable for cold start of mobile machines
- Various valve functions available
- Directly interchangeable with the standard version of the valve

SPECIFICATIONS

Generally valid for all valves with the TT extension in their model code

Media operating temperature range: min. -40°C to max. $+80^{\circ}\text{C}$

Ambient temperature range:

Solenoid valves min. -40°C to max. $+60^{\circ}\text{C}$

Hydro valves min. -40°C to max. $+80^{\circ}\text{C}$

Sealing materials: NBR TT

Please refer to the relevant standard valve brochure for all other specifications. The specifications mentioned above replace the information contained in the brochure for the media operating temperature range, the ambient temperature range and the sealing material.

DOCUMENTATION

This brochure supplements the standard valve brochure. If the version ID in the model code deviates in addition to the TT add-on, the designations provided in brackets apply to the relevant standard valve.

Examples:

TT designation		Standard valve
WS08W-01M...TT	TT available as 01M version only	(WS08W-01)
WS08Y-01...TT	TT available as 01 version only	(WS08Y-01)
WS08Z-01(M)...TT	TT available as 01 and 01M version	(WS08Z-01)
DB4E-06...TT	TT designation deviates	(DB4E-01)

The valve designation provided in brackets identifies the standard valve brochure.

Special TT seal kits for use in low temperatures must be used if spare parts are needed – see below.

Seal kits (for valves with TT ID only)

Designation	Material	Part no.
FS083-N -TT	NBR	3284298
FS083-N -TT	NBR	3550468
FS102-N -TT	NBR	3941611
FS103-N -TT	NBR	3941612
FS122-N -TT	NBR	3941613
FS162-N -TT	NBR	3941614
03230-NBR -TT	NBR	3941646
06020-NBR -TT	NBR	3675972
08130-NBR -TT	NBR	3676001
08140-NBR -TT	NBR	3941647
08021-NBR -TT	NBR	3941653
10120-NBR -TT	NBR	3941648
12120-NBR -TT	NBR	3941649
16021-NBR -TT	NBR	3941685
16520-NBR -TT	NBR	3941650
20121-NBR -TT	NBR	3941651

Other seal kits on request

MODEL CODE (sample directional valve)

WSM06020Z - 01 - C - N - 0 - TT

Designation

Directional poppet valve, metric

Type

01 = Standard

Type of connection

C = Cartridge valves only

Sealing material

N = NBR

Nominal voltage for coil

0 = Without coil

Add-on for the sealing material

TT = Cryogenic temperature

VALVES

Pressure valves:

DB3E-02
DB4E-06 (DB4E-01)
DB08P-01
DB10P-01
DMM10121-11
DMM10121-12
DR08P-01
DR10P-01

Check valves:

RV08A-22 (RV08A-01)
RV08A-72 (RV08A-51)
RV10A-22 (RV10A-01)
RV10A-72 (RV10A-51)
RV12A-01
RV16A-01
RVM06020-22 (RVM06020-01)
RVM06020-72
RVM10120-22
ERVE08021-04 (ERVE08021-01)
SBVE08021-13 (SBVE08021-01)
SBVE16021-13 (SBVE16021-01)
SR5E-01 (SR5E-02)

Directional valves:

WK08C-01	WSM03230C-01(M)
WK10C-01(M)	WSM03230D-01M
WK10X-01	WSM06020V-01M
WKM08130C-01	WSM06020W-01(M)
WKM08140EB-01	WSM06020W-61(M)
WKM08140Y-01	WSM06020Y-01(M)
WS08C-01	WSM06020Y-70
WS08V-01M	WSM06020YR-01
WS08W-01(M)	WSM06020Z-01(M)
WS08W-30(M)	WSM06020Z-70
WS08Y-01	WSM06020ZR-01(M)
WS08Z-01(M)	WSM08130C-01
WS08ZR-01(M)	WSM08130D-01(M)
WS10W-01(M)	WSM10120W-01
WS10Y-01T	WSM10120YR-01(M)
WS10Z-01	WSM12120V-01
WS12YR-01(M)	WSM12120W-01(M)
WS12Z-01M	WSM12120YR-01M
WS12ZR-01(M)	WSM20121V-01
WS16ZR-01	WSM20121W-01(M)

Flow valves:

SR10-01
DV5E-19 (DV5E-01)
DV5E-22 (DV5E-01)
DVE08920-19 (DVE08920-01)

Note

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

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