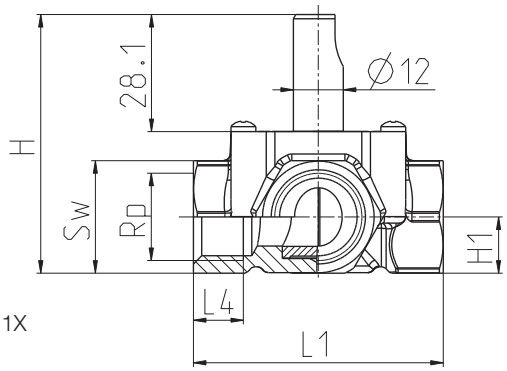
HERZ Mixing valves

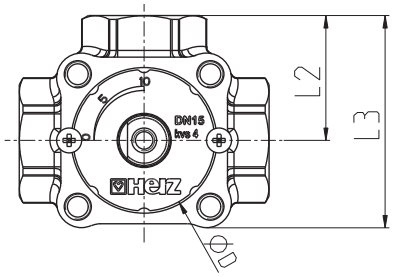
Three-way and four-way

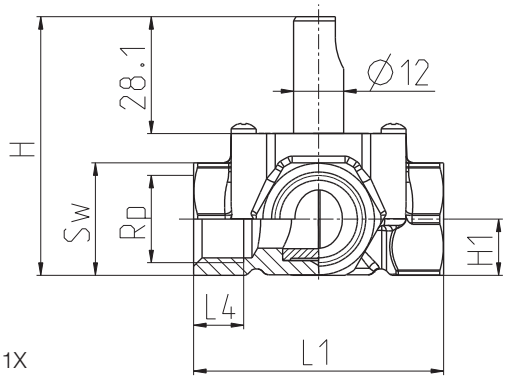
Data sheet 1 **213X** XX, Issue **0921**

Dimensions in mm



1 **2137** 1X





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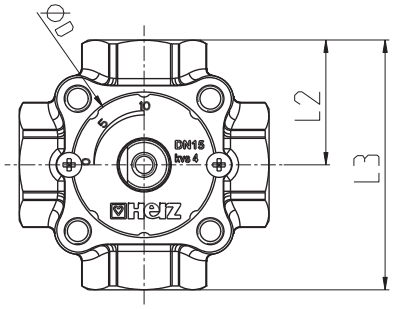


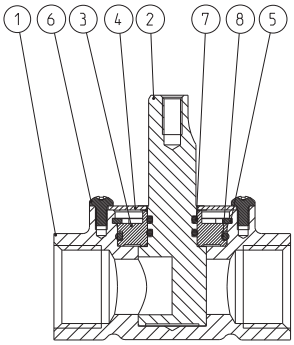
Art. Nr.	DN	kvs [m³/h]	Sw [mm]	Rp [in]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	H [mm]	H1 [mm]	D [mm]	Weight [kg]	Lever
1 **2137** 71	15	0,4	27	½″	60	30	51	12	66,1	13,5	34	0,41	+
1 **2137** 31	15	0,63	27	½″	60	30	51	12	66,1	13,5	34	0,41	+
1 **2137** 41	15	1	27	½″	60	30	51	12	66,1	13,5	34	0,41	+
1 **2137** 51	15	1,6	27	½″	60	30	51	12	66,1	13,5	34	0,41	+
1 **2137** 61	15	2,5	27	½″	60	30	51	12	66,1	13,5	34	0,41	+
1 **2137** 01	15	4	27	½″	60	30	51	12	66,1	13,5	34	0,41	+
1 **2137** 11	15	4	27	½″	60	30	51	12	62,1	13,5	34	0,41	-
1 **2137** 72	20	2,5	31	¾″	64	32	53	13	66,1	15,5	34	0,44	+
1 **2137** 32	20	4	31	¾″	64	32	53	13	66,1	15,5	34	0,44	+
1 **2137** 02	20	6,3	31	¾″	64	32	53	13	66,1	15,5	34	0,44	+
1 **2137** 12	20	6,3	31	¾″	64	32	53	13	66,1	15,5	34	0,44	-
1 **2137** 73	25	6,3	39	1″	80	40	647	15	78,6	19,5	43	0,78	+
1 **2137** 03	25	10	39	1″	80	40	647	15	78,6	19,5	43	0,78	+
1 **2137** 13	25	10	39	1″	80	40	647	15	74,6	19,5	43	0,78	-
1 **2137** 04	32	16	49	1-¼″	90	45	713	188	89,1	26,3	43	1,15	+
1 **2137** 14	32	16	49	1-¼″	90	45	713	188	85,1	26,3	43	1,15	-

Art. Nr.	DN	kvs [m/h]	Sw [mm]	Rp [in]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	H [mm]	H1 [mm]	D [mm]	Weight [kg]	Lever
1 **2137** 05	40	25	59	1-½″	110	55	88	214	100,6	30,5	61	2,41	+
1 **2137** 15	40	25	59	1-½″	110	55	88	214	96,6	30,5	61	2,41	-
1 **2137** 06	50	40	72	2″	136	68	1.055	27	113,1	37,5	61	2,573	+
1 **2137** 16	50	40	72	2″	136	68	1.055	27	109,1	37,5	61	2,573	-
1 **2138** 01	15	4	27	½″	60	30	60	12	66,1	13,5	34	0,43	+
1 **2138** 11	15	4	27	½″	60	30	60	12	62,1	13,5	34	0,43	-
1 **2138** 21	15	4	27	½″	60	30	60	12	131,6*	13,5	34	0,942*	+*
1 **2138** 02	20	6,3	31	¾″	64	32	64	13	70,1	15,5	34	0,47	+
1 **2138** 12	20	6,3	31	¾″	64	32	64	13	66,1	15,5	34	0,47	-
1 **2138** 22	20	6,3	31	¾″	64	32	64	13	135,6*	15,5	34	0,972*	+*
1 **2138** 03	25	10	39	1″	80	40	80	15	78,6	19,5	43	0,84	+
1 **2138** 13	25	10	39	1″	80	40	80	15	74,6	19,5	43	0,84	-
1 **2138** 23	25	10	39	1″	80	40	80	15	144,1*	19,5	43	1,44*	+*
1 **2138** 04	32	16	49	1-¼″	90	45	90	188	89	26,3	43	1,11	+
1 **2138** 14	32	16	49	1-¼″	90	45	90	188	85	26,3	43	1,11	-
1 **2138** 24	32	16	49	1-¼″	90	45	90	188	154,6*	26,3	43	1,726*	+*

Indication:
- Mixing valve without handle
+ Mixing valve with handle 1 **2100** 95
+* Mixing valve with drive 1 **7712** 63
* Dimensions and weight with drive 1 **7712** 63

Components of HERZ-mixing valves

1. Valve body
2. Hatch
3. Sealing nut
4. Circlip
5. Inscription plate
6. Screw M3
7. O-ring
8. O-ring



Construction

Valve body:	forged brass acc. to EN 12165, CW617N
Hatch:	brass acc. to EN 12164, CW614N
Sealing:	EPDM
Connection:	internal threads acc. to ISO 7-1

Operating data

Maximum temperature:	120°C
Nominal pressure:	PN 10
Permanent temperature load:	-10°C...120°C
Torque (at PN 10):	≤ 5 Nm
Angle of working stroke (turn):	90°
Medium:	Heating water quality according ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50% is allowed.

Application

HERZ-mixing valve is used as actuating element in heating and cooling systems for continuous control or regulation of the medium temperature. With a corresponding motor drive it is used as a control device with linear, proportional or quadratic characteristics. Three-way mixing valve can be used as a mixing or flow-diverting valve. Four-way mixing valves have a dual function of mixing, namely, they mix a share of hot water from the boiler with the return water. This results in a higher return water temperature, reducing the risk of corrosion and ensuring longer service life for the boiler.

Assembly

HERZ-mixing valve can be mounted in any position. As part of a motor drive, the assembly in hanging position is not recommended due to the possibility of water breaking into a motor drive. The three-way mixing valve is installed in pipe systems with the help of connectors depending on the application (mixing or distributing functions).

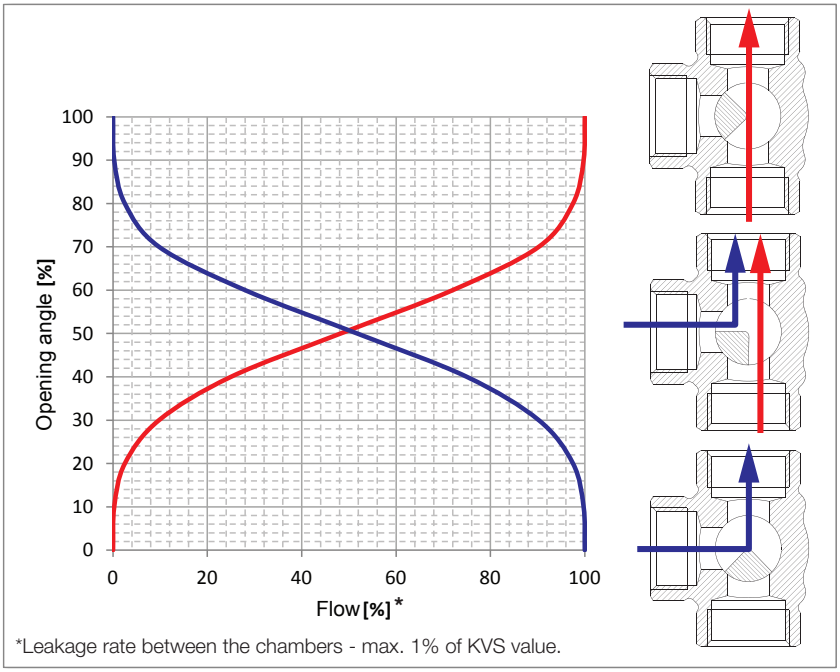
Maintenance instructions

If the product is used properly, no special maintenance is required in normal operation. The ingress of condensate, dripping water etc. into the drive should be prevented. Repairs on the device must be carried out by authorized persons only.

Disposal instructions

If the product is used properly, no special maintenance is required in normal operation. The ingress of condensate, dripping water etc. into the drive should be prevented. Repairs on the device must be carried out by authorized persons only.

Characteristic curves of three-way valve



*Leakage rate between the chambers - max. 1% of KVS value.

3-Point Actuator (1 7712 63)

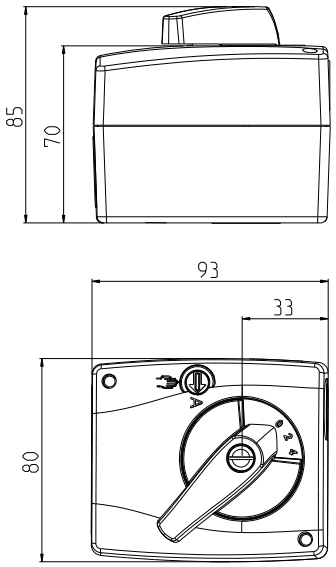
The actuator can be operated by 3-point and open-close control (see diagram). The mounting position in relation to the ball valve can be selected in 90° steps. The actuator is automatically disconnected when the end stops are reached. The actuator can be mounted in any position except with its head down. Two-piece body made of self-extinguishing plastic, the lower part is black and upper part is red. Straightforward direct mounting on the mixing ball valve with a screw. The screw is supplied with an actuator.

Manual operation possible by lever:
Press for temporary disengagement, permanent gearing disengagement by rotary switch on the housing cover to the manual position.

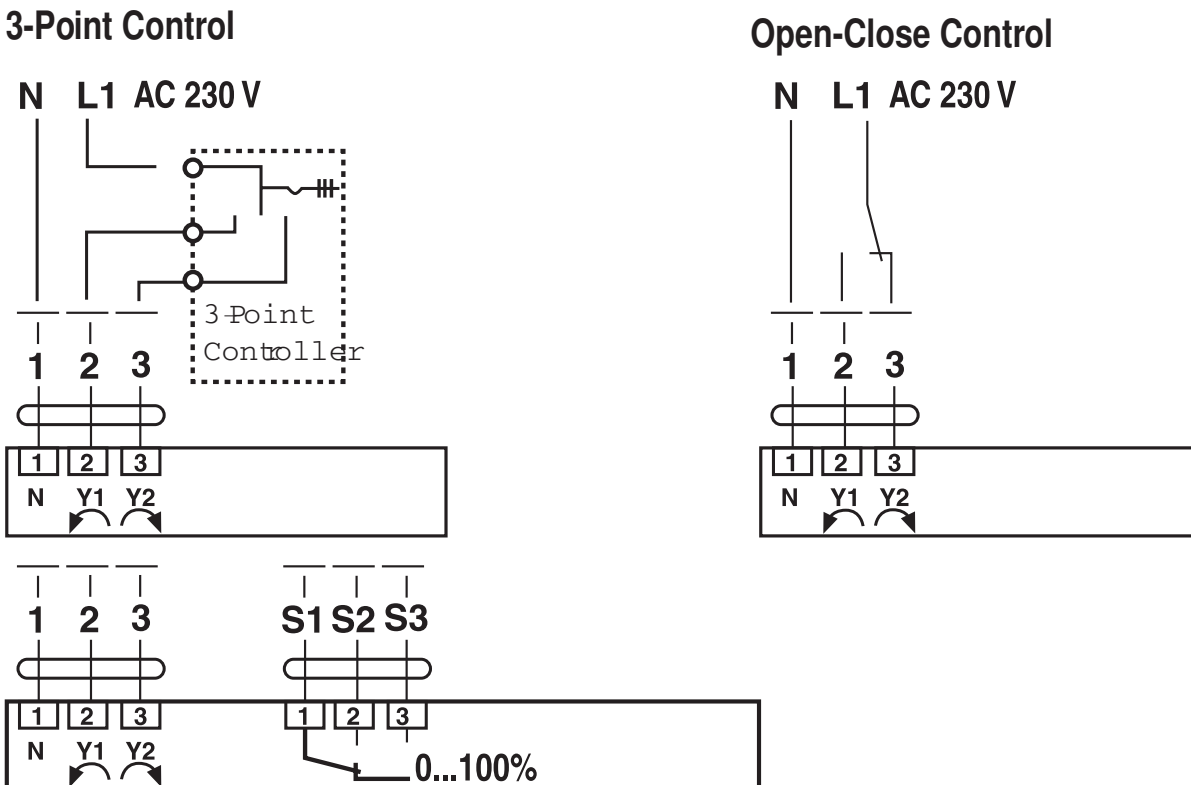
Safety note:
The actuator may only be opened at the factory. It contains no components which can be replaced or repaired by the user.

Technical data

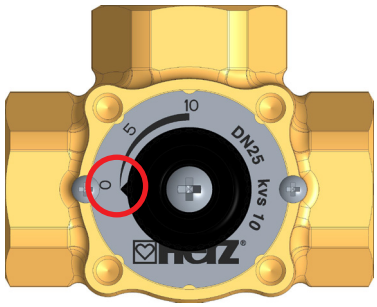
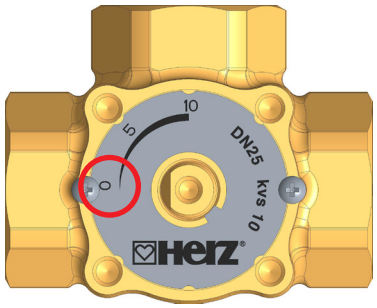
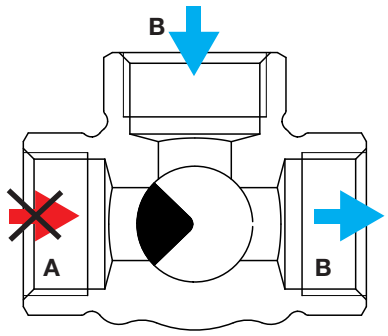
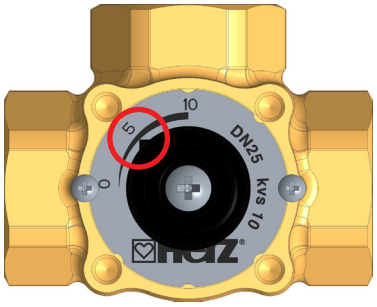
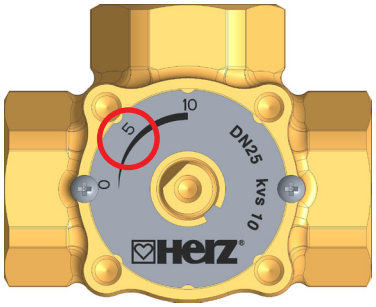
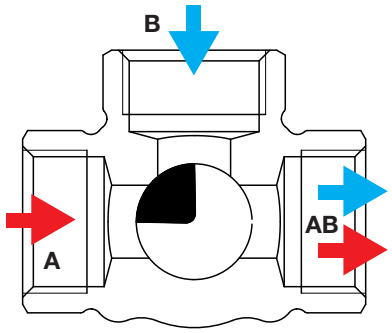
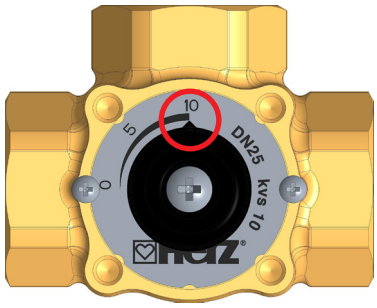
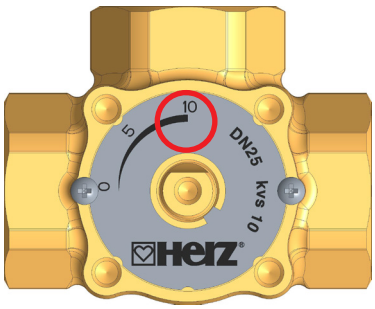
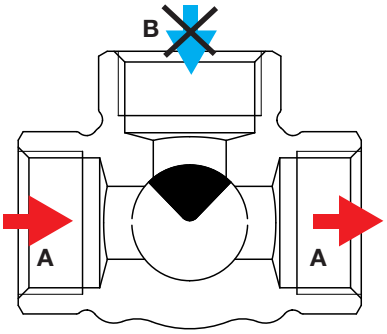
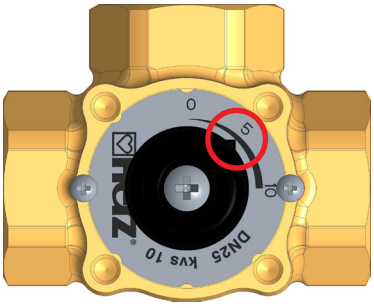
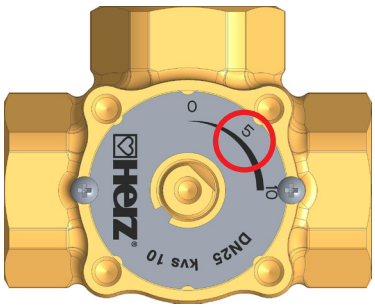
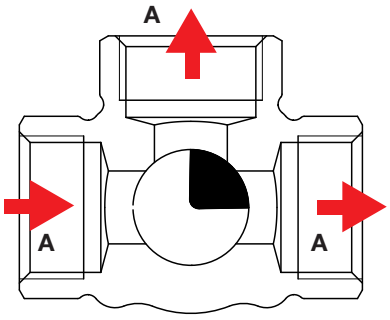
Nominal voltage	AC 230 V 50 / 60 Hz
Power supply range	AC 198 ... 264 V
Dimensioning	3,5 VA
Power consumption	3,5 W
Auxiliary switch	1 x EPU 5 (1) A, AC 250 V
Switching point	adjustable 0 … 100%
Manual operation	Temporary and permanent disengagement of the gearing latch
Torque	min. 10 Nm (at nominal voltage)
Angle of rotation	90°
Running time	140 s
Sound power level	max. 35 dB(A)
Position indication	Scale 0 ... 10
Protection class	II (totally insulated)
Degree of protection	IP40
Ambient temperature range	0 … + 50 °C (duty cycle 140/35 s)
Media temperature	+ 5 ... + 120 °C (ball valve)
Non-operating temperature	– 30 … + 80 °C
Humidity test	according to EN 60730-1
EMC	CE according to 89/336/EWG
LV directive	CE according to 73/23/EWG
Mode of operation	Typ 1.B (EN 60730-1)
Maintenance	Maintenance-free



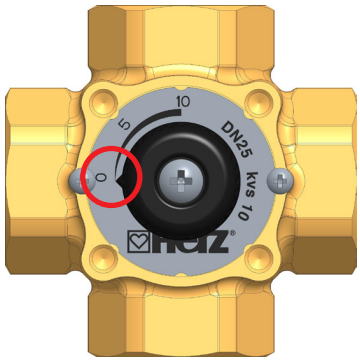
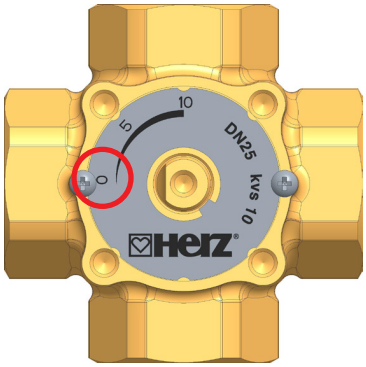
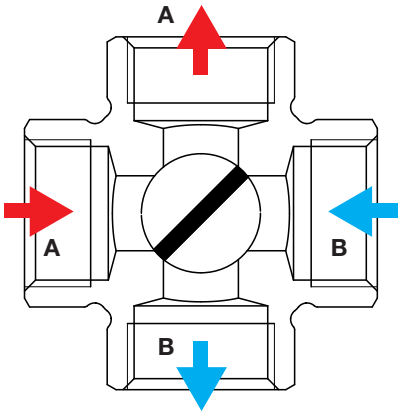
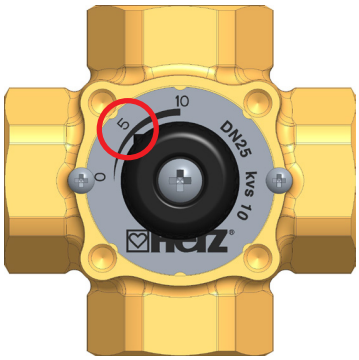
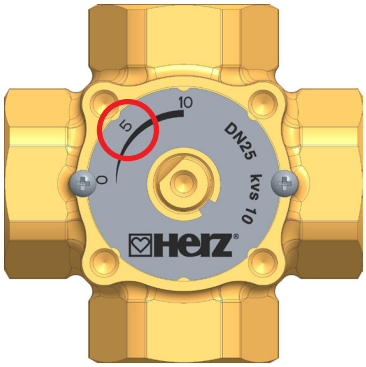
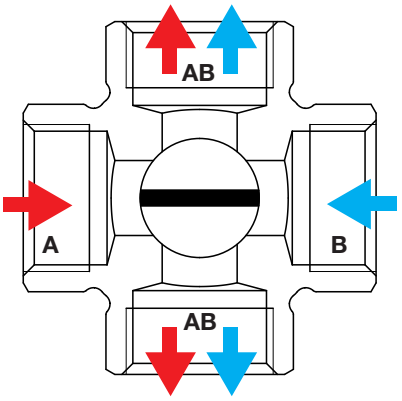
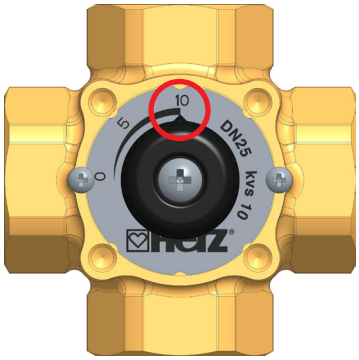
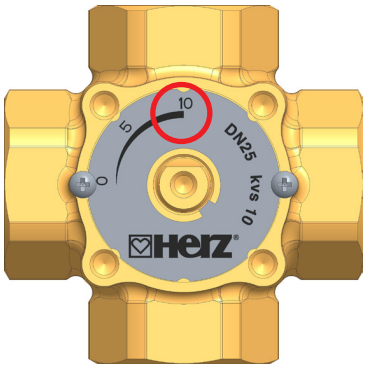
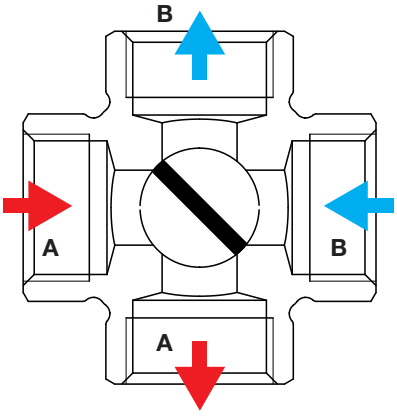
Technical



Funktion

3-Way mixing valve with handle	3-Way mixing valve without handle	Flow direction*
		
		
		
		

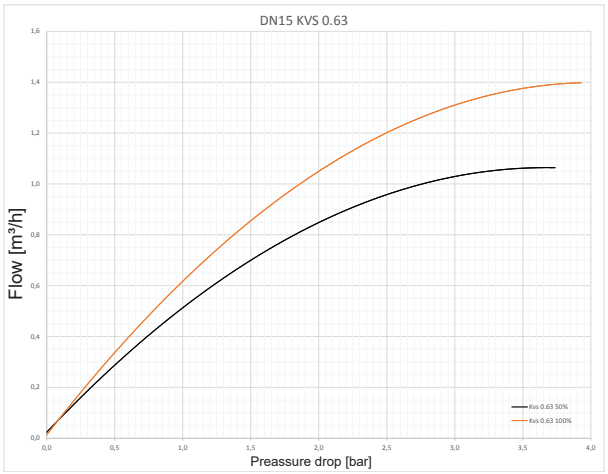
*Leakage rate between the chambers - max. 1% of Kvs value.

4-Way mixing valve with handle	4-Way mixing valve without handle	Flow direction*
		
		
		

*Leakage rate between the chambers - max. 1% of Kvs value.

Pressure drop curves of three-way valves

DN 15



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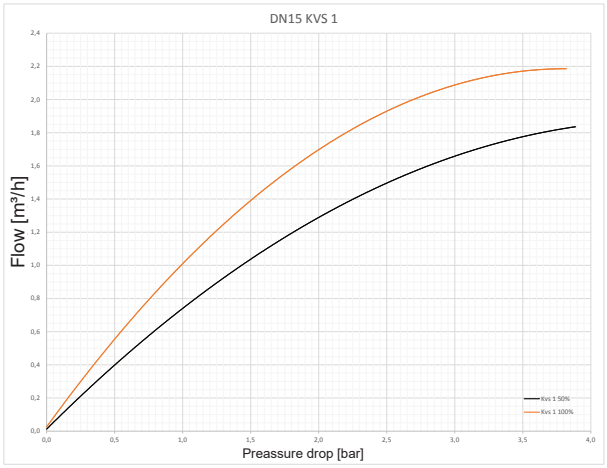
DN 15



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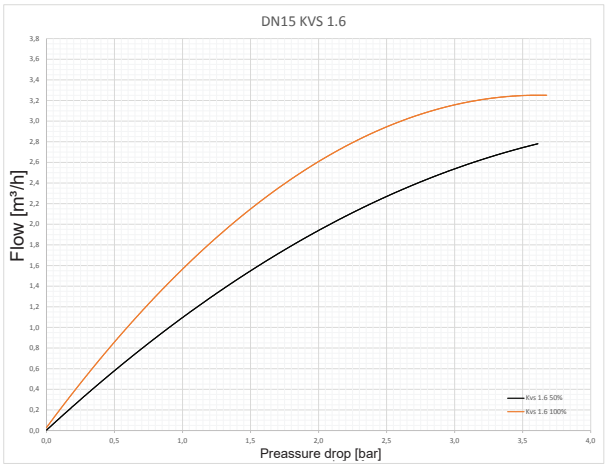
DN 15



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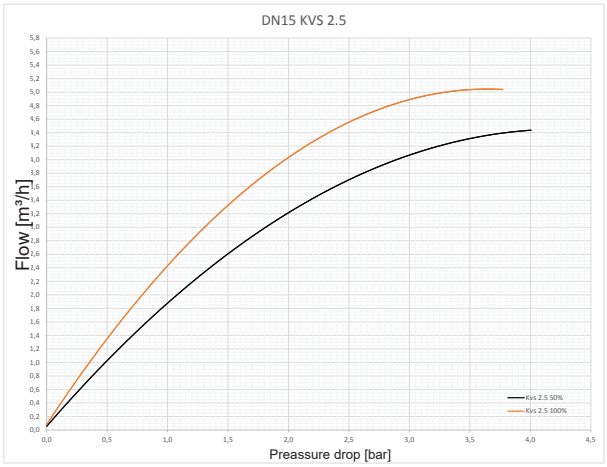

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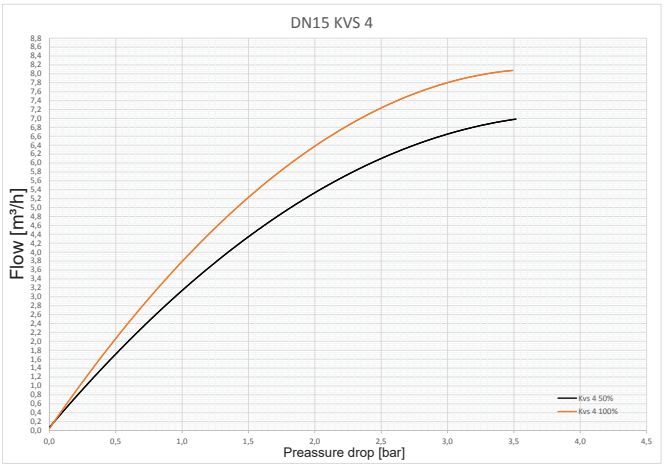
DN 15



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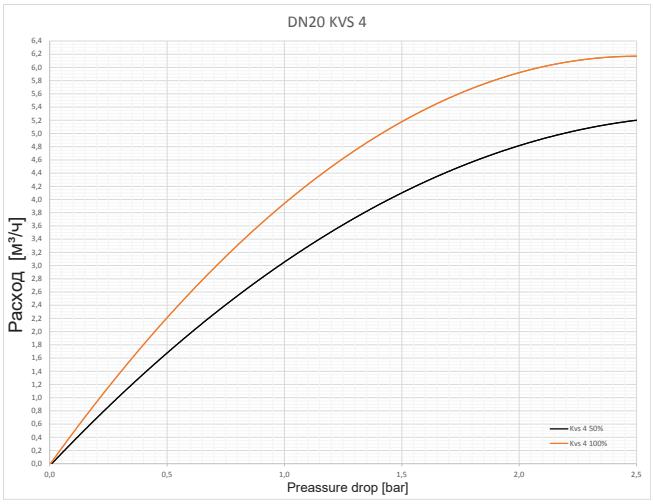
DN 20



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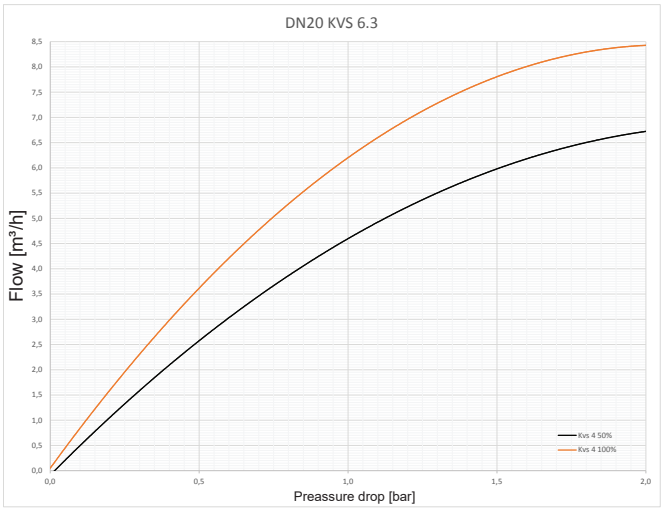

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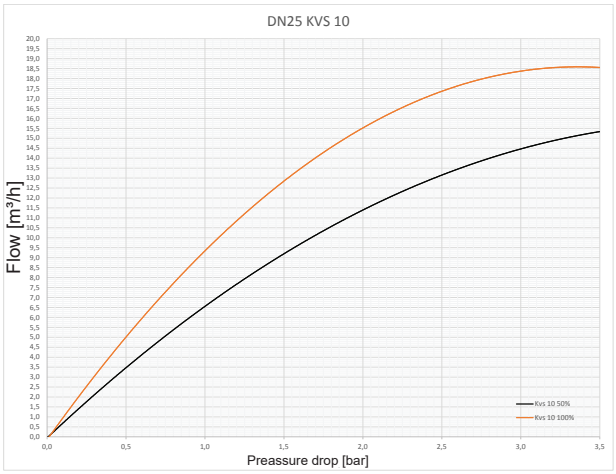
DN 25



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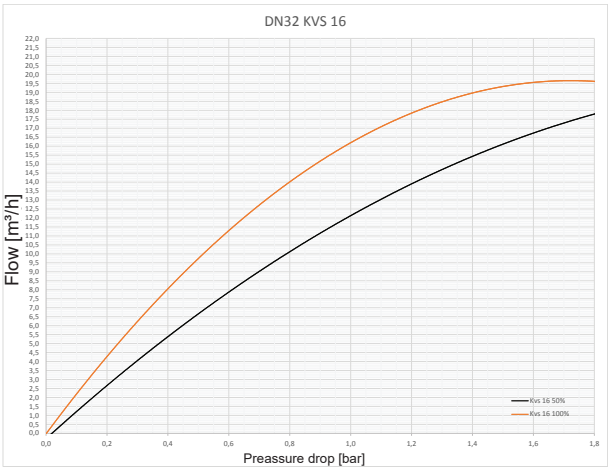
DN 32



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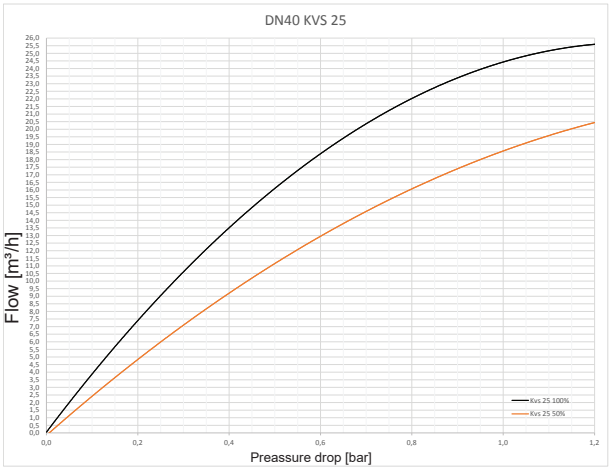

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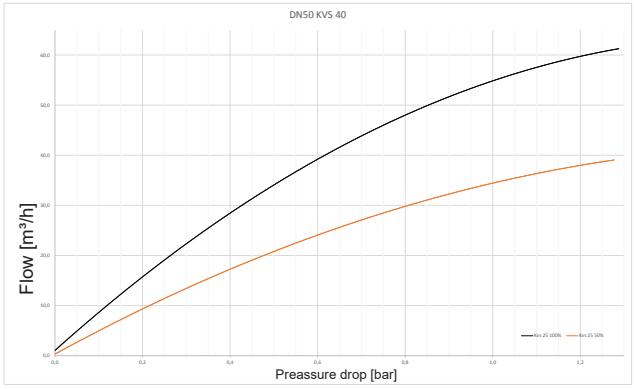
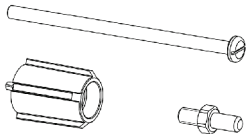
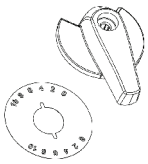
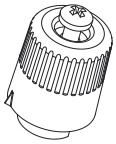
DN 50

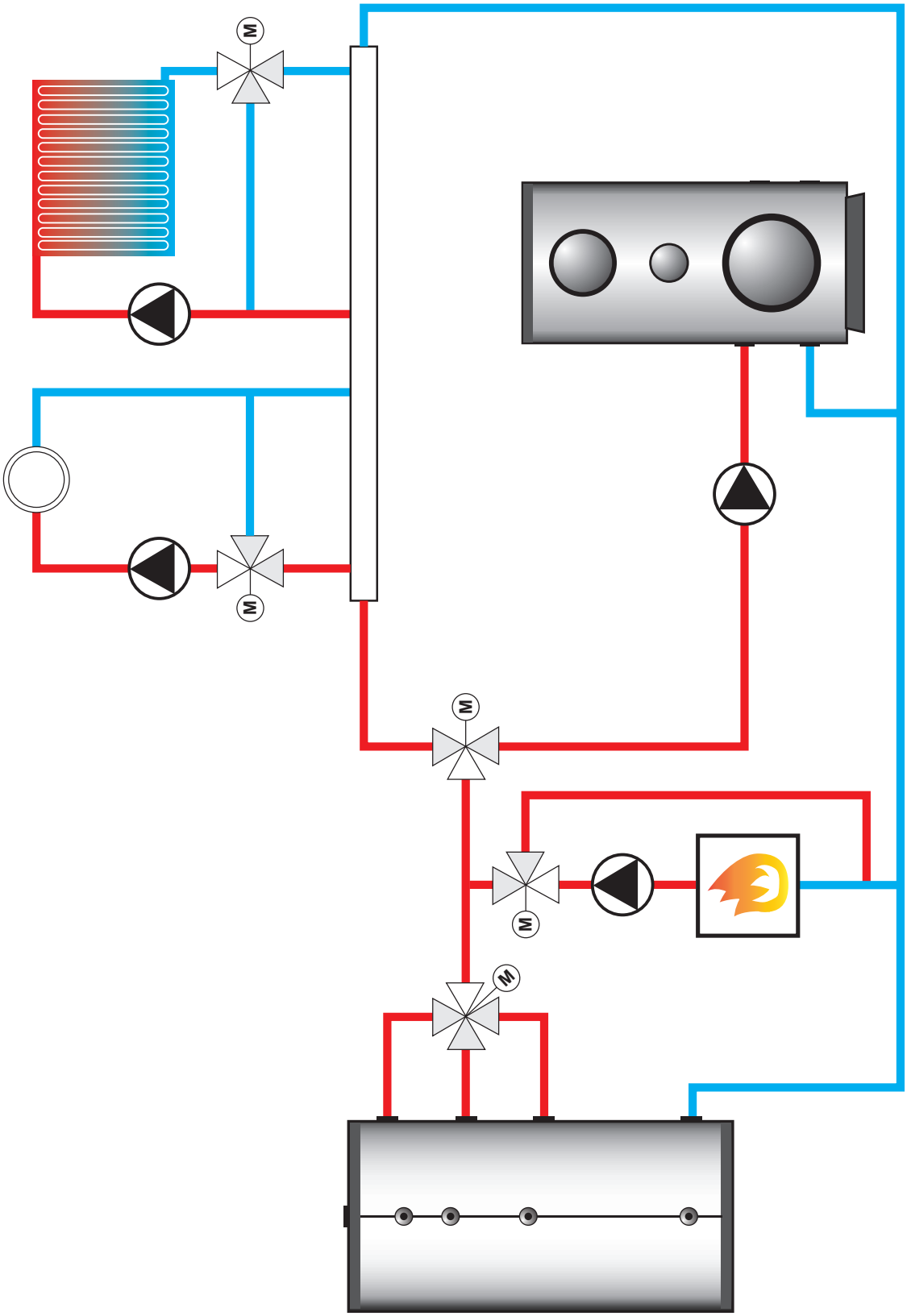


1 **2137** 16

Spare parts

Illustration	Description	Item number	Compatable with
	**Montage set for actuator** 1 **7712** 63	1 **7712** 67	1 **2137** XX 1 **2138** XX
	**Handle and scale for actuator** 1 **7712** 63	1 **7781** 03	1 **2137** 2X 1 **2138** 2X
	**Handle for mixing valve**	1 **2100** 95	1 **2137** XX 1 **2138** XX
	**HERZ rotary drive for HERZ 2137, 230 V/AC**	1 **7712** 25	1 **2137** XX 1 **2138** XX
	HERZ rotary drive for HERZ 2137, 24 V/AC/DC	1 **7712** 27	1 **2137** XX 1 **2138** XX

Examples of usage



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