

Data sheet

Rotary valves HRE 3, HRE 4

Description



Danfoss HRE rotary valves are primarily designed for regulation of flow temperature in heating systems where a certain leakage can be accepted and where a defined control characteristic is not required.

HRE rotary valves can be used in combination with electric actuators AMB 162 and AMB 182.

Features:

- Cast iron body with internal thread
- Lowest leakage in class
- Unique position indicator (visible also when actuator is mounted)
- Ergonomic handle
- For mixing and diverting applications
- Internal thread connection

Main data:

- DN 20–50
- k_{vs} 6,3–40 m³/h
- PN 6
- T_{max} = 110 °C
- 3-way or 4-way
- S characteristic

Ordering

Type	DN (mm)	k_{vs} (m ³ /h)	PN	Connection	Code No.	
					HRE 3	HRE 4
HRE 3 HRE 4	20	6,3	6	Rp ¾"	065Z0418	065Z0423
	25	10		Rp 1"	065Z0419	065Z0424
	32	16		Rp 1 ¼"	065Z0420	065Z0425
	40	25		Rp 1 ½"	065Z0421	065Z0426
	50	40		Rp 2"	065Z0422	065Z0427

Spare parts and accessories for HRE valves

Type	DN	Code No.
Transparent cover, scale and pointer	15-20	065Z0444
	25	065Z0445
	32	065Z0446
	40	065Z0447
	50	065Z0448
Stuffing box	HRE 3/4	15-20 065Z0449
	HRE 3/4	25 065Z0450
	HRE 3/4	32 065Z0451
	HRE 3	40 065Z0452
	HRE 4	40 065Z0460
	HRE 3	50 065Z0453
	HRE 4	50 065Z0461
Replacement handle		065Z0442
Linkage kit for AMB (Gen. 2014)		082H0255

Spare parts for old generation AMB actuators

Picture	Type	Code No.
	Connection plate HRE + AMB (Gen. 2009)	065Z0439

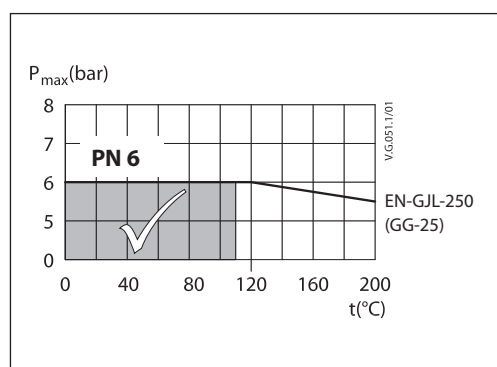
Data sheet

Rotary valves HRE 3, HRE 4

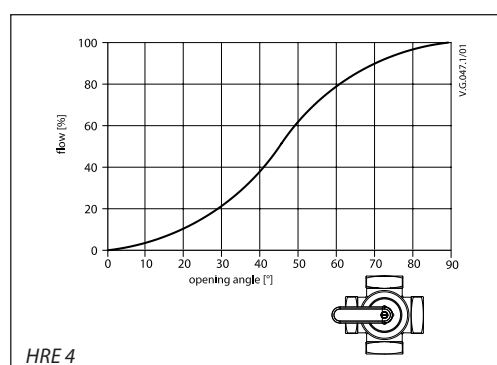
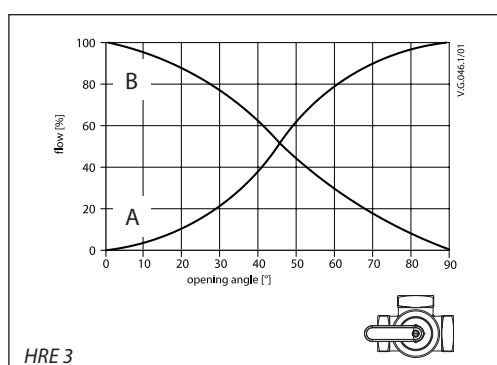
Technical data

Nominal diameter	DN	20	25	32	40	50
Control Characteristic		S characteristic				
Leakage	HRE 3	Diverting: max. 0,5 % of k_{vs} / Mixing: max. 1,0 % of k_{vs}				
	HRE 4	Max. 1,5 % k_{vs}				
Nominal pressure	PN	6				
Max. closing pressure	bar	1				
Torque at PN	Nm	5				
Medium		Circulation water / glycolic mixture up to 50 %				
Medium pH		Min. 7, max. 10				
Medium temperature	°C	2 ... 110				
Connections		Internal thread. ISO 7/1				
Materials						
Valve body		Grey cast iron EN-GJL-250(GG25)				
Slide shoe		CuZn36Pb2As (Brass DZR, CW 602N)				
Stuffing box sealing		EPDM				

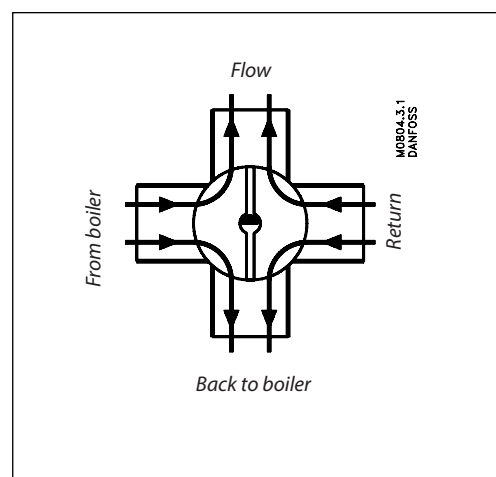
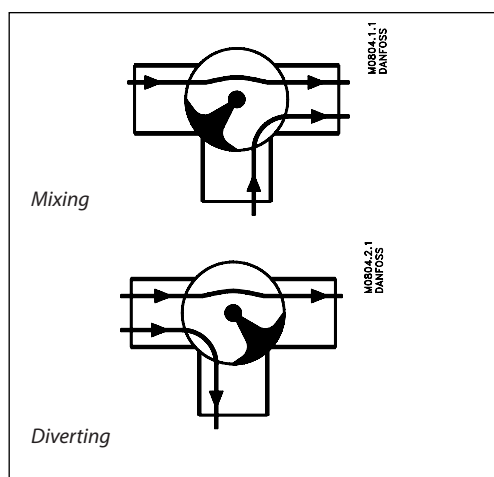
Pressure temperature diagram



Valve characteristics



Installation



Valve mounting

Before valve mounting pipes have to be cleaned and free from abrasion. Mechanical loads on valve body caused by the pipes are not allowed. It is recommended to install a strainer into application to avoid damaging controlling components.

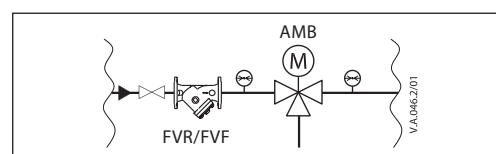
Connection

HRE 3 can be used as a mixing valve, diverting valve and in connection with heat exchangers where a certain leakage can be accepted.

HRE 4 operates according to the double shunt principle i.e. the water from the boiler is mixed with a certain portion of the water in the return. In this way the water which goes to the boiler reaches a higher return temperature than by using 3-way valves. This means that the risk of corrosion in oil and solid fuel boilers is reduced.

Note:

Install a strainer upstream of the valve (e.g. Danfoss FVR/FVF)

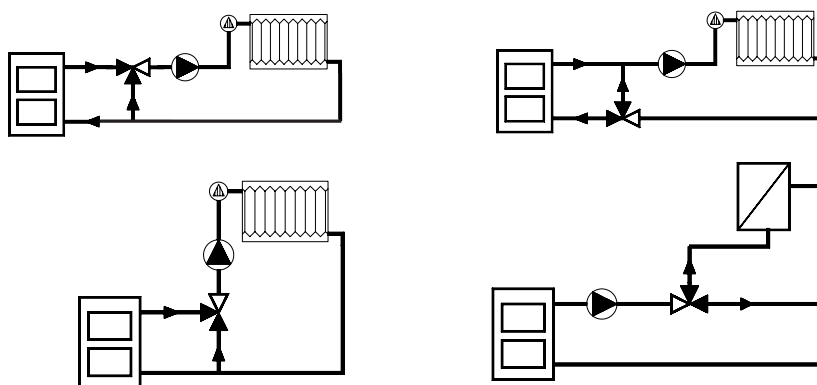


Disposal

The valve must be dismantled and the elements sorted into various material groups before disposal.

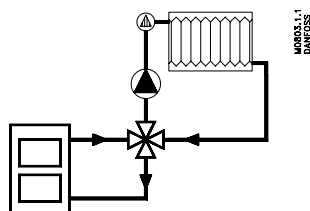
Application principles

HRE 3



The reverse function is obtained by turning the actuator's direction of rotation and the valve's sign.

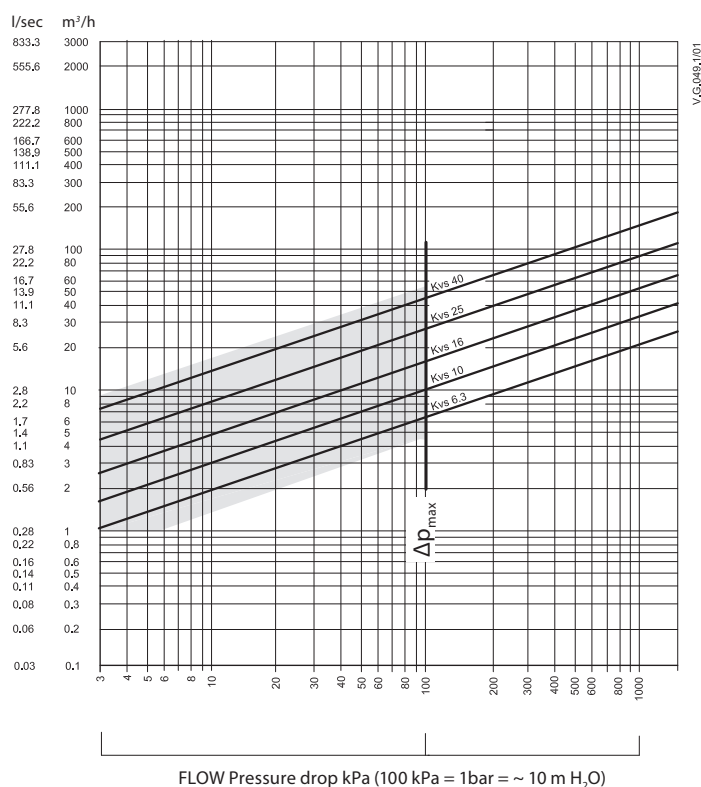
HRE 4



The reverse function is obtained by turning the actuator's direction of rotation and the valve's sign.

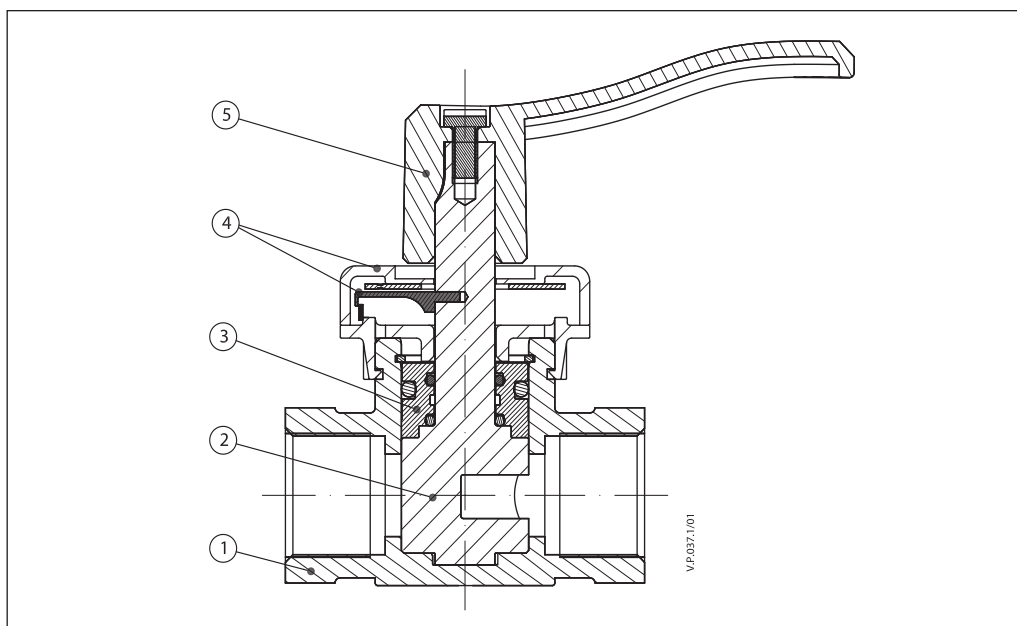
Sizing

Flow Rate
(liquid with specific gravity of 1)



Design

1. Valve body
2. Slide shoe
3. Stuffing box
4. Transparent cover and indicator
5. Handle



Dimensions

