ALPHA

DN15-DN1000

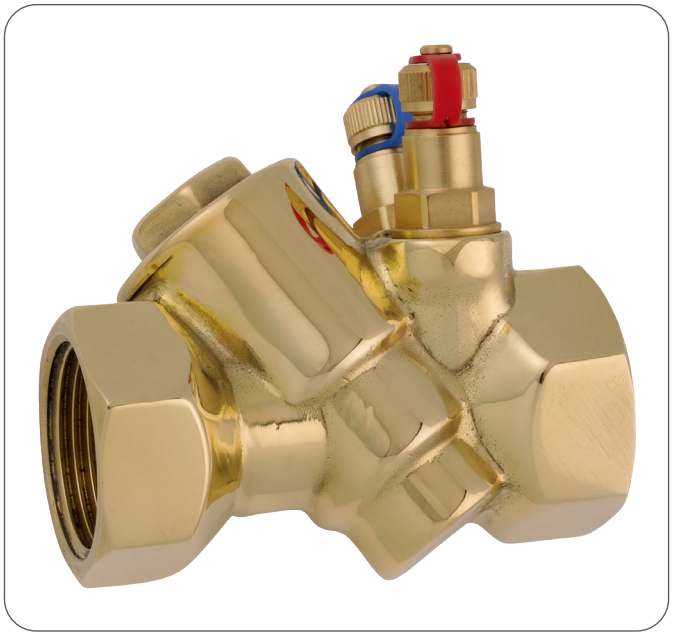
Application

The ALPHA Valves are particularly designed and manufactured for the automatic balancing of heating and cooling circuits.

The ALPHA Cartridges - the second generation cartridges - are an integral part of the ALPHA Valves limiting the flow at the specified level even under fluctuating pressure conditions.

The patented design of these cartridges introduces a replaceable orifice plate for higher flexibility and a resistant diaphragm for higher accuracy.

From small size threaded valves (DN15) to big flanged type valves (DN1000), from small heating units to district cooling applications, ALPHA Valves guarantee the hydronic balance of the system regardless pressure fluctuations.



Benefits

- Balancing of the system takes place automatically even under fluctuating pressure conditions

Design

- No need to use balancing valves in the distribution lines, main distribution lines and supply lines.
- Less time to define the necessary equipment for a hydronic balanced system.
- No impact if the calculated distribution of pressure in the installation is not accurate.
- Security that the specified flow is also the real one
- No requirements on pipe lengths before and after the valve

Installation

- Minimized commissioning time due to automatic balancing of the system
- Cartridge solution makes flushing procedure very easy
- No need for oversized pumps and oversized control valves

Operation

- Energy savings due to elimination of overflows
- Higher comfort due to correct distribution of water in the system and to optimized function of the control valves

Features

Wide product range covering all applications:

- sizes from DN15 to DN1000
- different end connections (female/female, union connections, flanges)
- dezincification resistant brass, ductile iron.
- P/T plugs, drain, combi-drain.
- Kit solution with strainer and ball-valves, solution with integral ball-valve.

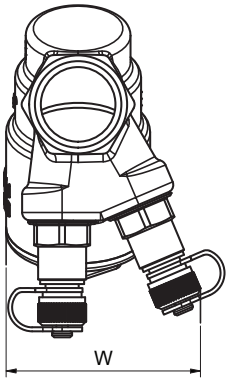
- Modifications & extensions of the system do not affect the hydronic balance in the other parts of the system.
- Tamper resistant cartridge independent of flow regulation errors during commissioning and operation of the system.
- Self-cleaning cartridge not allowing dirt to compromise the accuracy of the valve.
- Resistant diaphragm between the moving parts of the cartridge eliminates friction, noise and impact from water hummer.

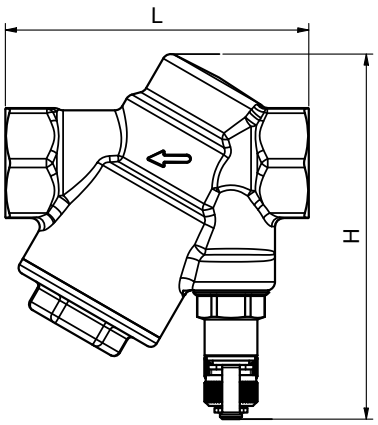
ALPHA

DN15-DN1000

Female/Female Threaded

A very simple and efficient solution for automatic balancing of heating/cooling circuits.





Technical data

Valve Housing:	DZR brass, CW602N
O-rings:	EPDM
Pressure class:	PN25
Temperature:	-20°C to + 120°C
Diff. Pressure Range:	7 - 600 kPa
Thread:	ISO 228

The pipe system shall be properly ventilated to avoid risk of air pockets. Glycolic mixtures up to 50% are applicable (both ethylene and propylene).
Recommendation: Water treatment to VDI 2035.

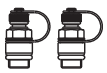
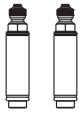
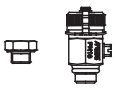
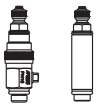
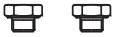
Accessories

Frese product numbers to the right are marked with an X. X represents the 5 different options available for different accessory features. See table below.

E.g. 49-9041 = ALPHA DN32 equipped with 2 pcs. 1" P/T-Plugs.

Flow Cartridge is selected from Cartridge Catalogues and ordered under individual numbers.

Frese no.	Dimensions
49-900X	DN15
49-901X	DN20
49-902X	DN25
49-903X	DN25L
49-904X	DN32
49-905X	DN40
49-906X	DN50

X =		1		2		4		5		6		
												
L, W & H are stated in [mm]		2 pcs 1" P/T plugs		2 pcs 2" P/T plugs		Plug and drain valve		Combidrain and 2" P/T plugs		2 pcs plugs		Net Weight
Dimensions	L	W	H	W	H	W	H	W	H	W	H	Kg
15	69	49	83	64	121	57	85	65	121	43	69	~0.50
20	77	49	83	64	121	57	85	65	121	43	69	~0.50
25	84	53	83	68	121	61	85	69	121	46	69	~0.65
25L/32/40	115	63	112	77	150	70	114	78	150	63	109	~1.45
50	130	72	112	82	150	75	114	83	150	63	109	~1.45

Specification text

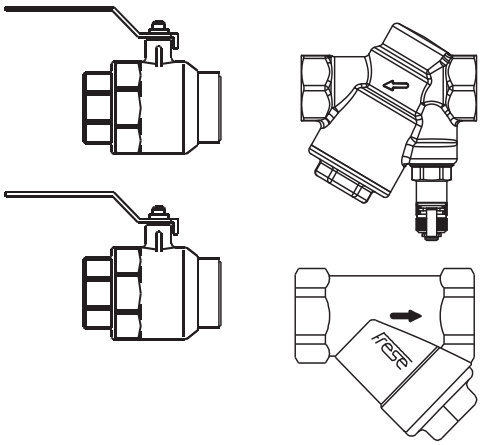
The valve shall operate by means of an automatic balancing cartridge with replaceable orifice plate and internal diaphragm. The pressure class of the valve shall be PN25. The valve housing shall be made of DZR brass.

ALPHA

DN15-DN1000

ALPHA Kit

A kit solution containing an ALPHA female /female valve, a strainer and two isolation ball-valves.



Technical data

ALPHA Valve:

Valve Housing: DZR brass, CW602N
O-rings: EPDM
Seal: PTFE
Pressure class: PN25
Temperature: -20°C to + 120°C
Diff. Pressure Range: 7 - 600 kPa
Flow range: See Cartridge Catalogue
Thread: ISO 228

Strainer:

Housing: DZR brass, CW602N
Filter: Stainless steel
Seal: PTFE
Mesh: 32 (0,5 mm)
Pressure class: PN16
Temperature: -20 to + 150°C
Thread: ISO 228

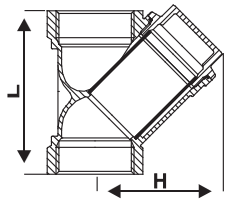
Ball Valve:

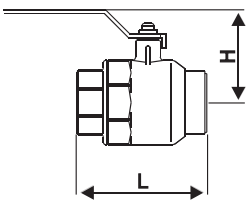
Valve Housing: DZR brass, CW602N
O-rings: EPDM
Seal: PTFE
Pressure class: PN20
Temperature: -20 to + 110°C
Thread: ISO 228

Dimensions	ALPHA Kit - Frese no.	
	P/T plugs	Plugs
DN15	49-9461	49-9466
DN20	49-9471	49-9476
DN25	49-9481	49-9486
DN25L	49-9491	49-9496
DN32	49-9501	49-9506
DN40	49-9511	49-9516
DN50	49-9521	49-9526

Flow Cartridge is selected from Cartridge Catalogues and ordered under individual numbers. Please see accessories for feature selection.

The pipe system shall be properly ventilated to avoid risk of air pockets. Glycolic mixtures up to 50% are applicable (both ethylene and propylene).
Recommendation: Water treatment to VDI 2035.

Strainer	Dimensions	Weight [kg]	L [mm]	H [mm]
	DN15	0.158	56	41
	DN20	0.282	69	50
	DN25	0.440	82	62
	DN32	0.638	90	71
	DN40	0.820	101	78
	DN50	1.280	121	96

Ball Valve	Dimensions	Weight [kg]	L [mm]	H [mm]
	DN15	0.195	62	44
	DN20	0.327	73	47
	DN25	0.502	85	55
	DN32	0.869	106	75
	DN40	1.348	113	82
	DN50	2.371	135	94

Specification text

The valve shall operate by means of an automatic balancing cartridge with replaceable orifice plate and internal diaphragm. The pressure class of the valve shall be PN25. The valve housing shall be made of DZR brass. The housing of the strainer shall be made of DZR brass; the filter shall be replaceable and made of stainless steel. The filter mesh shall be 32 (0.5 mm).

ALPHA

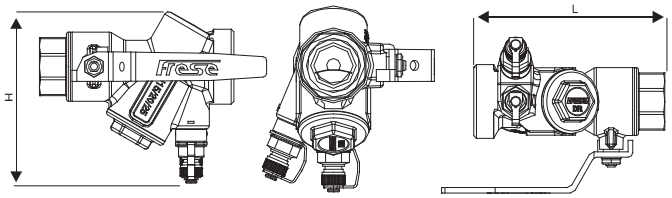
DN15-DN1000

Fixed Female/Male for union connection

An automatic balancing valve with an integral ball valve and one union end for ease of installation.

Technical data

Valve Housing:	DZR brass, CW602N
O-rings:	EPDM
Seal:	PTFE
Pressure class:	PN25
Temperature:	-20°C to + 120°C
Diff. Pressure Range:	7 - 600 kPa
Flow range:	See Cartridge Catalogue
Thread:	ISO 228



The pipe system shall be properly ventilated to avoid risk of air pockets. Glycolic mixtures up to 50% are applicable (both ethylene and propylene). Recommendation: Water treatment to VDI 2035.

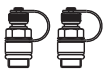
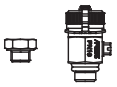
Accessories

Frese product numbers to the right are marked with an X. X represents the 3 different options available for different accessory features. See table below.

E.g. 49-9431 = ALPHA DN32 equipped with 2 pcs. 1" P/T-Plugs.

Flow Cartridge is selected from Cartridge Catalogues and ordered under individual numbers.

Frese no.	Dimensions
49-935X	DN15
49-937X	DN20
49-939X	DN25
49-941X	DN25L
49-943X	DN32
49-945X	DN40

X =		1		4		6		
								
L, W & H are stated in [mm]		2 pcs 1" P/T plugs		Plug and drain valve		2 pcs plugs		Net Weight
Dimensions	L	W	H	W	H	W	H	Kg
15/20/25	107	94	95	95	81	75	69	~0.71
25L/32/40	160	124	126	127	127	112	115	~2.15

Male ends DZR brass*	Dimension	DN15	DN20	DN25	DN25L	DN32	DN40
	Lenght with one union**	132 mm	132 mm	146 mm	200 mm	200 mm	202 mm
	Frese no.	43-4310	43-4312	43-4314	43-5330	43-5332	43-5334

*Material in contact with water **All threads are ISO type. Length is total valve length with one union connection.

Specification text

The valve shall operate by means of an automatic balancing cartridge with replaceable orifice plate and internal diaphragm. The pressure class of the valve shall be PN25. The valve housing shall be made of DZR brass. The housing shall have one fixed threaded end and one union end. The valve includes an integral ball valve with handle.

ALPHA

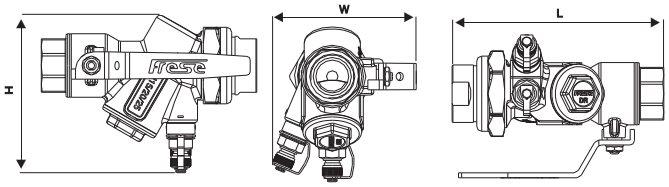
DN15-DN1000

Fixed Female/Female for union connection

An automatic balancing valve with an integral ball valve and one union end for ease of installation.

Technical data

Valve Housing:	DZR brass, CW602N
O-rings:	EPDM
Seal:	PTFE
Pressure class:	PN25
Temperature:	-20°C to + 120°C
Diff. Pressure Range:	7 - 600 kPa
Flow range:	See Cartridge Catalogue
Thread:	ISO 228



The pipe system shall be properly ventilated to avoid risk of air pockets. Glycolic mixtures up to 50% are applicable (both ethylene and propylene). Recommendation: Water treatment to VDI 2035.

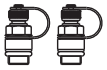
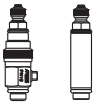
Accessories

Frese product numbers to the right are marked with an X. X represents the 2 different options available for different accessory features. See table below.

E.g. 49-9421 = ALPHA DN32 equipped with 2 pcs. 1" P/T-Plugs.

Flow Cartridge is selected from Cartridge Catalogues and ordered under individual numbers.

Frese no.	Dimensions
49-934X	DN15
49-936X	DN20
49-938X	DN25
49-940X	DN25L
49-942X	DN32
49-944X	DN40

X =		1		5		
						
L, W & H are stated in [mm]		2 pcs 1" P/T plugs		Combidrain and 2" P/T plugs		Net Weight
Dimensions	L	W	H	W	H	Kg
15/20/25	129/129/146	87	94	103	133	~0.87
25L/32/40	195/195/200	124	126	135	164	~2.54

Female ends DZR brass*	Dimension	DN15	DN20	DN25	DN25L	DN32	DN40
	Lenght with one union**	129 mm	129 mm	146 mm	195 mm	195 mm	202 mm
	Frese no.	43-4210	43-4212	43-4214	43-5230	43-5232	43-5234

*Material in contact with water **All threads are ISO type. Length is total valve length with one union connection.

Specification text

The valve shall operate by means of an automatic balancing cartridge with replaceable orifice plate and internal diaphragm. The pressure class of the valve shall be PN25. The valve housing shall be made of DZR brass. The housing shall have one fixed threaded end and one union end. The valve includes an integral ball valve with handle.

ALPHA

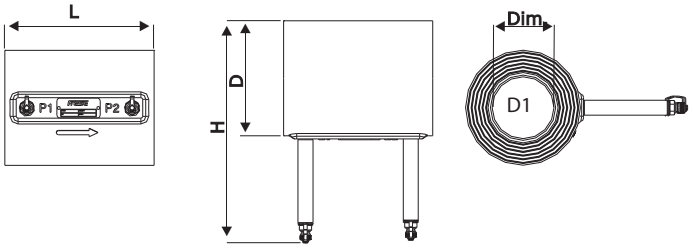
DN15-DN1000

Flanged Ductile Iron

A wafer-type valve containing, depending on the size and the design flow, up to 136 ALPHA cartridges

Technical data

Valve Housing: Ductile iron DIN 1693 GGG-40
O-rings: EPDM
Fasteners: AISI 306
Pressure class: PN16 (PN25)
Temperature: -20°C to + 110°C
Diff. Pressure Range: 13 - 600 kPa
Flow range: See Cartridge Catalogue
Flange compliance: ISO 7005-2/EN 1092-2 & ANSI 150 ASME B16.42



The pipe system shall be properly ventilated to avoid risk of air pockets. Glycolic mixtures up to 50% are applicable (both ethylene and propylene).
Recommendation: Water treatment to VDI 2035.

Frese no. (PN16)	Frese no. (PN25)	Dimensions	L [mm]	D [mm]	D1 [mm]	H [mm]	Net Weight [kg]	Cart./Valve (Pcs.)
-	49-9073	DN50	170	100	80	218	3.41	1
-	49-9083	DN65	170	119	80	237	4.79	1
-	49-9093	DN80	170	131	80	249	5.27	1
49-9103	49-9540	DN100	170	163	100	281	6.90	2
49-9163	49-9541	DN125	170	193	125	311	9.00	3
49-9113	49-9542	DN150	170	216	150	334	11.7	4
49-9123	49-9543	DN200	170	271	200	389	18.8	7
49-9133	49-9544	DN250	170	326	260	440	23.4	12
49-9143	49-9545	DN300	170	383	315	501	33.4	15
49-9153	49-9546	DN350	170	443	355	561	44.2	19
49-9173	49-9547	DN400	170	496	405	614	51.6	26
49-9183	49-9548	DN450	170	545	455	663	57.5	33
49-9193	49-9549	DN500	170	601	508	719	67.8	40
49-9203	49-9550	DN600	170	715	610	833	88.9	56
49-9213	-	DN800	170	880	760	998	127	85
49-9233	-	DN900	202	1009	905	1127	237	112
49-9223	-	DN1000	202	1126	1005	1244	308	136

Blind Caps can be fitted instead of cartridges if the full flow capacity is not required. Frese A/S can deliver the valve with the cartridges installed (an item code with the -01 suffix is added to the housing item code for this purpose, for example: 49-9073-01 instead of 49-9073). Valves are delivered with 4" P/T-Plugs. From DN100 the valves are delivered with an eye bolt.

Specification text

The valve shall operate by means of automatic balancing stainless steel cartridges with replaceable orifice plate and internal EPDM diaphragm. The pressure class of the valve shall be PN16/PN25. The valve housing shall be made of ductile iron type GGG40. The valve shall comply with flanges according to EN/ANSI standards.

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Vexve A/S
Tel: +45 58 56 00 00