



[www.frese.eu/hvac](http://www.frese.eu/hvac)



# Frese Product Guide

Valves & Controls for HVAC Applications



## Save Time, Energy and Costs with our Patented Valve Technology

Frese's patented pressure independent technology is an innovative, energy-saving alternative to traditional hydronic balancing and control methods. It provides efficient and accurate flow and differential pressure control.

The pressure independent valves ensure that the design flow conditions are achieved at all times, irrespective of pressure fluctuations in the system. It also eliminates overflows – resulting in significant pump energy savings.

Dynamic valves hold several other advantages over traditional, static balancing valves. They contribute to simplified system designs by eliminating the need for additional balancing valves in the distribution pipework. They are also highly flexible if your system needs to be modified or expanded at a later date.

Because pressure independent control valves automatically adapt to any changes in the rest of the system, they are much easier to commission since they require no proportional balancing.



Heating



Cooling



Water Systems

KNOWLEDGE








QUALITY

INNOVATION

MANUFACTURING  
EXCELLENCE

CUSTOMER FOCUS

# Product Overview

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Flow, Pressure and  
Temperature Control

## OPTIMA Compact

Pressure independent control valve

### Technical Data

<b>Size range:</b>	<b>DN10 to DN32</b>
Flow range:	30 l/h to 4,001 l/h
Maximum DP:	800 kPa
Pressure rating:	PN25
Material:	DZR Brass
Temperature range:	-10 °C to 120 °C
Actuator options:	LOGICA Digital, Energy-series (Modbus/BACnet) Motoric (0-10 V modulating, on/off and 3 position) Thermic (0-10 V modulating and on/off) Failsafe and Feedback Thermostat with remote sensor for water and air

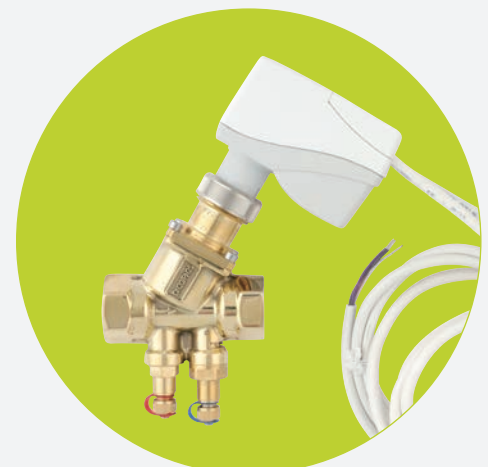


<b>Size range:</b>	<b>DN40 to DN50</b>
Flow range:	1,370 l/h to 11,500 l/h
Maximum DP:	800 kPa
Pressure rating:	PN25
Material:	Ductile Iron
Temperature range:	-10 °C to 120 °C
Actuator options:	LOGICA Digital, Energy-series (Modbus/BACnet) Motoric (0-10 V modulating, 3 position) Spring Return and Feedback



## OPTIMA Compact, Veriflow-serie

<b>Size range:</b>	<b>DN10 to DN50</b>
Flow range:	30 l/h to 11,500 l/h
Maximum DP:	800 kPa
Pressure rating:	PN25
Material:	DZR Brass
Temperature range:	-10 °C to 120 °C
Actuator options:	LOGICA Digital, Energy-series (Modbus/BACnet) Motoric (0-10 V modulating, on/off and 3 position) Thermic (0-10 V modulating and on/off) Failsafe and Feedback Thermostat with remote sensor for water and air





Flow, Pressure and  
Temperature Control

## OPTIMA Compact

Pressure independent control valve

### Technical Data

#### Veriflow, Standard- and Ultra-series DN50 - DN80

Flow range Std-series:	2,500 l/h to 43,000 l/h
Flow range Ultra-series:	1,400 l/h to 35,000 l/h
Maximum DP:	800 kPa
Pressure rating:	PN16/PN25
Material:	DZR Brass
Temperature range:	-10 °C to 120 °C
Actuator options:	LOGICA Digital, Energy-series (Modbus/BACnet) Motoric (0-10 V modulating, on/off and 3 position) Failsafe and Feedback Frese MODBUS System



#### Veriflow, Standard- and Ultra-series DN100 - DN150

Flow range Std-series:	12,100 l/h to 195,000 l/h
Flow range Ultra-series:	5,300 l/h to 90,000 l/h
Maximum DP:	800 kPa
Pressure rating:	PN16/25
Material:	Cast/Ductile Iron
Temperature range:	-10 °C to 120 °C (see details in technote)
Actuator options:	Motoric (0-10 V modulating, 3 position) Spring Return and Feedback Frese MODBUS System



#### Veriflow, Standard- and Ultra-series DN100 - DN150

Flow range:	95,000 l/h to 600,000 l/h
Maximum DP:	800 kPa
Pressure rating:	PN16/PN25
Material:	Cast/Ductile Iron
Temperature range:	-10 °C to 120 °C (see details in technote)
Actuator options:	Motoric (0-10 V modulating, 3 position) Spring Return and Feedback Frese MODBUS System



# ACTUATORS FOR PICVs

## Actuators DN10-DN32

Characteristics:	Thermic and motoric actuators
Protection class:	IP 43/54 to EN 60529
Frequency:	50/60 Hz
Supply voltage:	AC/DC 24 V AC 230 V
Control signal:	DC 0-10 V, 4-20 mA 3-position/On/Of
Actuating force:	100 N
Ambient operating conditions:	0 °C to 50/60 °C



## LOGICA Digital, Energy-series DN10-DN50

Characteristics:	Digital actuator
Control signal:	Modbus RTU/BACnet MS/TP
Protection class:	IP 54
Frequency:	50/60 Hz
Supply voltage:	24 V AC/DC
Actuating force:	150 N (DN10-DN32) 500 N (DN40-DN50)
Ambient operating conditions:	0 °C to 50 °C



## Failsafe & Feedback actuators DN10-DN32

Characteristics:	0-10 V, modulating
Protection class:	IP 54 acc. EN60529
Frequency:	50/60 Hz AC or DC
Supply voltage:	24 V AC/DC
Control signal:	0-10 V DC
Actuating force:	>125 N
Ambient operating conditions:	0 °C to 50 °C





## Actuators for OPTIMA Compact

### Technical Data

#### Thermostat with remote sensor for water and air

Characteristics:	Self acting proportional controller
Valve sizes:	DN10-DN20
Valve stroke:	2.5 mm



#### Spring Return actuators DN40-DN125

Characteristics:	Motoric, modulating, Spring Return
Protection class:	IP 54 to EN 60529
Frequency:	50/60 Hz
Control signal:	0-10 V DC or 3-point
Actuating force:	600 N/900 N
Ambient operating conditions:	-10 °C to 50 °C





# Modulating Control of Valves in HVAC-systems

## Actuators for OPTIMA Compact

### Technical Data

#### Actuators DN40-DN200

Characteristics:	Motoric, modulating, normally closed
Protection class:	IP 54 to EN 60529
Frequency AC:	50/60 Hz
Control signal:	0-10 V DC or 3 position
Actuating force:	400 N - DN40-DN50 (Threaded) 800 N - DN50-DN125 (Flanged) 1500 N - DN150-DN200 (Flanged)
Ambient operating conditions:	-10 °C to 50 °C



#### Spring Return actuators DN40-DN125

Characteristics:	Motoric, modulating, Spring Return
Protection class:	IP 54 to EN 60529
Frequency:	50/60 Hz
Control signal:	0-10 V DC or 3-point
Actuating force:	600 N/900 N
Ambient operating conditions:	-10 °C to 50 °C



#### Actuators DN150-DN300

Characteristics:	Motoric, modulating
Variant:	Spring Return
Protection class:	IP 66 to EN 60529
Frequency:	50/60 Hz
Supply voltage:	24 V AC/DC
Control signal:	0-10 V DC, 4-20 mA DC or 3-point/2point floating
Actuating force:	2500 N Standard 2000 N Spring Return
Ambient operating conditions:	0 °C to 55 °C





Flow, Pressure and  
Temperature Control

## COMBIFLOW 6-way

Pressure independent control valve

### Technical Data

<b>Size range:</b>	<b>DN15 to DN20 (DN25 with unions)</b>
Flow range:	35 l/h to 4250 l/h
Max. DP:	400 kPa
Pressure rating:	PN25
Material:	DZR Brass
Temperature range:	0 °C to 90 °C
Actuators:	Analog Rotary Actuator (0-10 V) Modbus Rotary Actuator (Modbus - RTU (RS485)) Multi Rotary Actuator (BACnet MS/TP (RS485), Modbus – RTU (RS485), 0-10 V & 4-20 mA)



## OPTIMIZER 6-way

Pressure independent control group

### Technical Data

<b>Size range:</b>	<b>DN15 to DN25</b>
Flow range:	65 l/h to 3,609 l/h
Maximum DP:	800 kPa (OPTIMA Compact)
Pressure rating:	PN25 (OPTIMA Compact), PN16 (6-way valve)
Material:	DZR Brass
Couplings 6-way valve:	Brass or DZR Brass
Temperature range:	0 °C to 120 °C (OPTIMA Compact) 0 °C to 90 °C (6-way valve)
Actuators:	Thermic (0-10 V) (OPTIMA Compact) Rotary actuator (3-point on/off) (6-way valve)





# Modulating Control of Valves in HVAC-systems

## Actuators for COMBIFLOW 6-way

### Technical Data

#### COMBIFLOW Multi Rotary Actuator

Supply voltage:	24 V AC/DC +/- 10 %
Protection class:	IP 54 to EN 60529
Frequency:	50/60 Hz
Feedback signal:	0-10 V DC
Control signal analog:	0-10 V, 4-20 mA (2-10 V, 0-20 mA)
Control signal digital:	BACnet MS/TP (RS485) Modbus – RTU (RS485)
Rotation angle:	90 °



#### COMBIFLOW Analog Rotary Actuator

Supply voltage:	24 V AC/DC +/- 20 %
Protection class:	IP 54 to EN 60529
Frequency:	50/60 Hz
Control signal:	0/2 - 10 V DC
Rotation angle:	90 °





Complete Package Solution for  
Modbus enabled Dynamic Valves



## Frese MODBUS System

### Technical Data

#### MODBUS Converter

Function:	MODBUS Slave/Node
Box material:	Polyamide Halogenfree
Operation voltage:	24 V AC/DC -10 % / +20 % via bus cable
Control connection:	MODBUS RTU RS485
Actuator control signal:	0-10 V DC, bidirectional modulating
Temperature sensors:	4-20 mA active transmitters or passive sensors
Ambient temperature:	0 °C to 50 °C during operation
Weight:	100 g



#### MODBUS System Actuators

##### DN10-DN32

- Halogen free cable, incl. M8 connector, 1 m or 3 m
- Extension cables available

##### DN40-DN50

- Pre-fabricated cables available for installation
- Protection class IP54

##### DN50-DN200

- Pre-fabricated cables available for installation
- Protection class IP54



#### Temperature Sensor for Frese MODBUS System

Characteristics:	PT1000 EN60751/B
Protection class:	IP 54 to EN60529
Ambient temperature:	0 °C to 60 °C
Measuring range:	0 °C to 100 °C
Cable:	3.0 m halogen free incl. connector





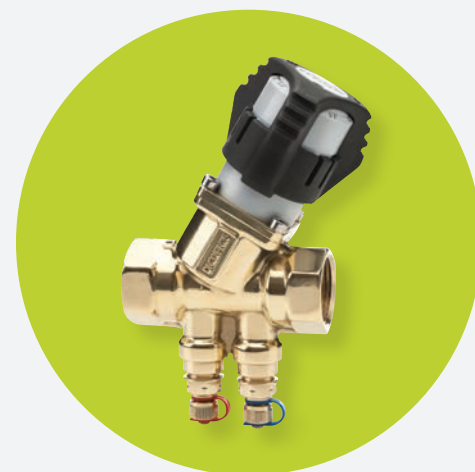
Accurate and Effective  
Flow Limitation

## SIGMA Compact

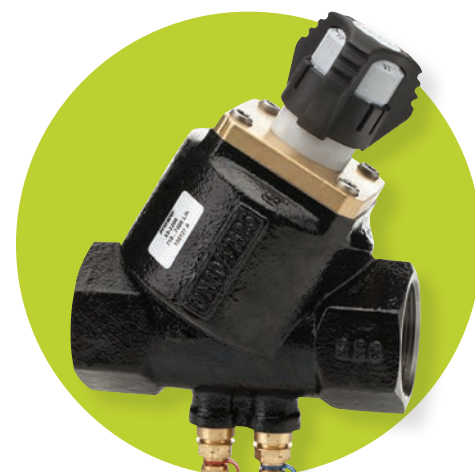
Dynamic flow limiting valve - externally adjustable

### Technical Data

<b>Size range:</b>	<b>DN15 to DN32</b>
Flow range:	40 l/h to 5,000 l/h
Maximum DP:	400 kPa
Pressure rating:	PN25
Material:	DZR Brass
Temperature range:	-10 °C to 120 °C



<b>Size range:</b>	<b>DN40 to DN50</b>
Flow range:	719 l/h to 10,350 l/h
Maximum DP:	400 kPa
Pressure rating:	PN25
Material:	Ductile Iron
Temperature range:	-10 °C to 120 °C



<b>Size range:</b>	<b>DN50 to DN300</b>
Flow range Std-series:	2,480 l/h to 600,000 l/h
Flow range Ultra-series:	1,400 l/h to 90,000 l/h
Maximum DP:	800 kPa
Pressure rating:	PN16/PN25
Material:	Cast/Ductile Iron
Temperature range:	-10 °C to 120 °C (see details in technote)





Accurate and Effective  
Flow Limitation

## ALPHA

Dynamic flow limiting valve - cartridge solution

### Technical Data

<b>Size range:</b>	<b>DN15 to DN50</b>
Flow range:	Dependent on ALPHA flow cartridge
Maximum DP:	600 kPa
Pressure rating:	PN25
Material:	DZR Brass
Temperature range:	-20 °C to 120 °C

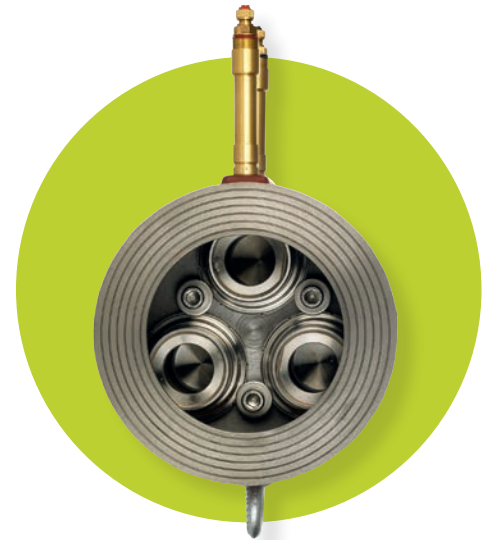


## ALPHA Wafer

Dynamic flow limiting valve - cartridge solution

### Technical Data

<b>Size range:</b>	<b>DN50 to DN1000</b>
Flow range:	Dependent on ALPHA flow cartridge
Maximum DP:	600 kPa
Pressure rating:	PN16/PN25
Material:	Ductile Iron
Temperature range:	-20 °C to 110 °C



## ALPHA & ALPHA Cool Cartridges

Dynamic flow cartridges for use with the ALPHA and EVA ranges

### Technical Data

<b>Types:</b>	Type 10/11/20 suitable for DN15 to DN25 Type 30/40 suitable for DN25L to DN50 Type 50/60 suitable for DN50 to DN800 (wafer)	
Maximum DP:	600 kPa	
Material:	ALPHA:	DZR Brass (Type 10/11/20/30/40) AISI 304 (Type 50/60)
	ALPHA Cool:	PPS glass-reinforced
Temperature range:	ALPHA:	-20 °C to 110 °C
	ALPHA Cool:	-20 °C to 80 °C





# Reliable Flow Balancing and Verification

## Frese STBV Range

### Manual Balancing Valves

### Technical Data

#### FODRV

Fixed orifice double regulating valve

<b>Size range:</b>	<b>DN15 to DN300</b>	
Kv range:	0.26 to 1,099 (m <sup>3</sup> /h at a pressure drop of 1 bar across the fully open valve)	
Pressure rating:	DN15-DN50:	PN25
	DN65-DN300:	PN16
Material:	DN15-DN50:	DZR Brass
	DN65-DN300:	Ductile Iron
Temperature range:	DN15-DN200:	-10 °C to 120 °C
	DN250-DN300:	-10 °C to 110 °C



#### VODRV

Variable orifice double regulating valve

<b>Size range:</b>	<b>DN15 to DN500</b>	
Kv range:	3.50 to 3,381 (m <sup>3</sup> /h at a pressure drop of 1 bar across the fully open valve)	
Pressure rating:	DN15-DN50:	PN25
	DN65-DN500:	PN16
Material:	DN15-DN50:	DZR Brass
	DN65-DN500:	Ductile Iron
Temperature range:	DN15-DN200:	-10 °C to 120 °C
	DN250-DN500:	-10 °C to 110 °C



#### DRV

Double regulating valve

<b>Size range:</b>	<b>DN15 to DN500</b>	
Kv range:	2.77 to 3,381 (m <sup>3</sup> /h at a pressure drop of 1 bar across the fully open valve)	
Pressure rating:	DN15-DN50:	PN25
	DN65-DN500:	PN16
Material:	DN15-DN50:	DZR Brass
	DN65-DN500:	Ductile Iron
Temperature range:	DN15-DN200:	-10 °C to 120 °C
	DN250-DN500:	-10 °C to 110 °C





# Constant Differential Pressure Control



## PV Compact

Differential pressure control valve

### Technical Data

#### PV Compact DN15-DN50

Maximum DP: 450 kPa  
 Temperature range: -10°C to 120°C  
 Pressure rating: PN25

**Size range:** DN10 – DN32  
 Material: DZR Brass  
 Control range: 5-30 kPa / 20-60 kPa / 20-80 kPa  
 Flow range: 50 l/h to 5,000 l/h

**Size range:** DN40 – DN50  
 Material: GJS-400  
 Control range: 20-80 kPa  
 Flow range: 3,000 l/h to 11,500 l/h



#### PV Compact, Spectrum-Serie

Maximum DP: 450 kPa  
 Temperature range: -10 °C to 120 °C  
 Pressure rating: PN25

**Size range:** DN10 – DN32  
 Material: DZR Brass CW602N  
 Control range: 5-30 kPa / 20-60 kPa / 20-80 kPa  
 Flow range: 50 l/h to 5.000 l/h

**Size range:** DN40 – DN50  
 Material: GJS-400  
 Control range: 20-80 kPa  
 Flow range: 3,000 l/h to 11,500 l/h

**Size range:** DN50 Ultra, Flansch  
 Material: GJS-400  
 Control range: 20-80 kPa  
 Flow range: 3,200 l/h to 13,000 l/h



#### PV Compact DN50-DN200

Maximum DP: 1.000 kPa  
 Temperature range: -10 °C to 120 °C (110 °C) See technote  
 Pressure rating: PN16 / PN25

Material: GJL-250 / GJS-400  
 Control range: 20-80, 20-100, 50-200, 90-350, 150-500  
 See technote

Flow range: 3,240 l/h to 261,000 l/h





# Constant Differential Pressure Control

## PV-SIGMA Compact

Differential pressure and flow regulating valve set



### Technical Data

<b>Size range:</b>	<b>DN15 to DN32</b>	<b>DN40 to DN50</b>
Flow range:	50 l/h to 5,000 l/h	3,000 l/h to 10,350 l/h
Control ranges:	5 to 30 kPa 20 to 60 kPa 20 to 80 kPa	20 to 80 kPa
Maximum DP:	400 kPa	400 kPa
Pressure rating:	PN25	PN25
Material:	DZR Brass	Ductile Iron
Temperature range:	-10 °C to 120 °C	-10 °C to 120 °C

## DRPV

Adjustable differential pressure relief valve



### Technical Data

<b>Size range:</b>	<b>DN15 to DN32</b>
Control range:	10 to 60 kPa
Maximum DP:	600 kPa
Pressure rating:	PN25
Material:	DZR Brass
Temperature range:	-20 °C to 120 °C

## YDF-2F and YDF-20F

Differential pressure control valve



### Technical Data

<b>Size range:</b>	<b>DN25 to DN300</b>
Control ranges:	20 to 200 kPa 150 to 500 kPa
Maximum DP:	1,000 kPa
Pressure rating:	PN16/PN25
Material:	Cast Iron (PN16) Cast Steel (PN25)
Maximum temperature:	170 °C



# Prefabricated Flushing Bypass Units

## MODULA Direct

Direct mount bypass unit with flow measurement

### Technical Data

<b>Size range:</b>	<b>DN15</b>
Center distance:	40 mm
Pressure rating:	PN20
Material:	DZR Brass
Temperature range:	0 °C to 120 °C



## MODULA PRO

Bypass unit with 3 isolating valves

### Technical Data

<b>Size range:</b>	<b>DN15 to DN25</b>
Center distance:	80/130/170 mm
Pressure rating:	PN20
Material:	DZR Brass
Temperature range:	0 °C to 120 °C



## MODULA

Bypass unit with 2 isolating valves

### Technical Data

<b>Size range:</b>	<b>DN15 to DN25</b>
Center distance:	80/130/170 mm
Pressure rating:	PN20
Material:	DZR Brass
Temperature range:	0 °C to 120 °C





# Circulation of Domestic Hot Water

## CirCon

Thermostatic control valve

### Technical Data

<b>Size range:</b>	<b>DN15 to DN20</b>
Maximum DP:	100 kPa
Pressure rating:	PN10
Material:	Stainless Steel AISI 316
Temperature setting range:	37 °C to 65 °C
Factory setting temperature:	52.5 °C



## TemCon

Thermostatic control valve with high temperature hot water bypass

### Technical Data

<b>Size range:</b>	<b>DN15 to DN20</b>
Maximum DP:	100 kPa
Pressure rating:	PN10
Material:	Stainless Steel AISI 316
Temperature setting range:	37 °C to 65 °C
Factory setting temperature:	57 °C
HTHW Bypass:	70 °C to 80 °C (Kv=0,3 m <sup>3</sup> /h)

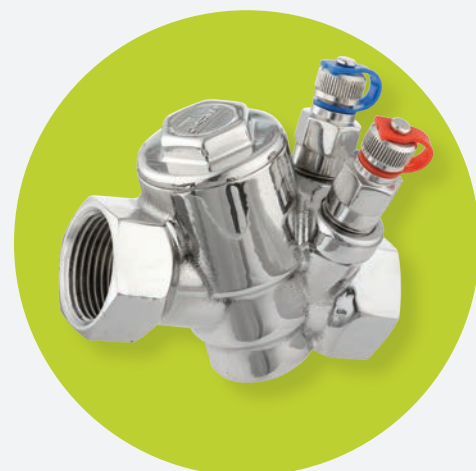


## ALPHA Sanitary

Dynamic balancing valve for circulation of DHW

### Technical Data

<b>Size range:</b>	<b>DN15 to DN20</b>
Flow range:	40 l/h to 410 l/h
Material:	Stainless Steel AISI 316
Pressure class:	PN25
Temperature:	-20 °C to 120 °C
Thread:	ISO 228





Measuring, Monitoring  
and Optimizing the  $\Delta T$



## DELTA T Control System

Easy-to-use solution for measuring, monitoring and optimizing the  $\Delta T$

### Technical Data

Protection class:	IP 24 to EN 60529
Supply:	24 V AC/DC
Power consumption:	1,5 VA
Max. power consumption:	4 VA
Control input/output signal:	0-10 V DC
Feedback signal:	0-10 V DC
$\Delta T$ setting range:	0.2 °C - 40 °C
Temperatur sensor range:	0 °C - 110 °C
Ambient operating conditions:	5 °C - 50 °C 20 - 90 % RH



## OPTIMIZER Twin Flow

For 2 pipeheating and cooling systems

### Technical Data

Protection class:	IP 23 to EN 60529
Supply:	24 V AC/DC
Max. power consumption:	Max. 4 VA (total group)
Control signal:	0-10 V DC distributed as follows: 0.5-4.5 V flow modulation in cooling 4-5-5.5 V - closed 5.5-10 V flow modulation in heating The control signal must be provided from the BMS system or a room controller.
Ambient operating conditions:	0 °C - 50 °C 20 - 90 % RH





For use in 2-pipe  
Radiator Systems

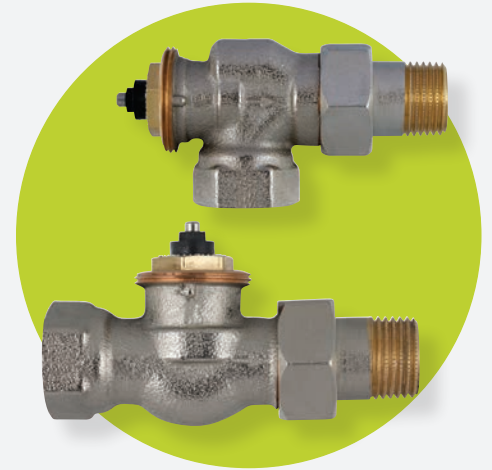
## RadCon

Pressure Independent Radiator Valves

### Technical Data

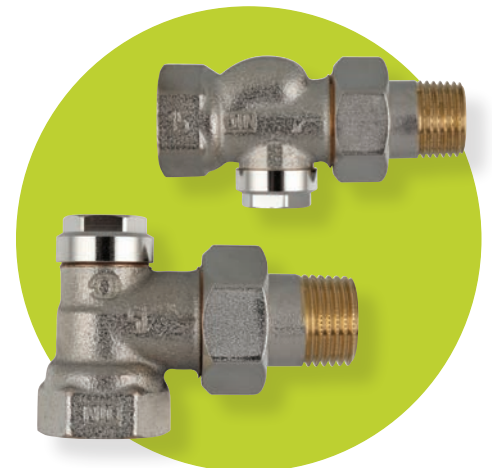
#### RadCon Radiator Valve

<b>Size range:</b>	<b>DN10 to DN20</b>
Flow range:	20 – 340 l/h
Maximum DP:	70 kPa
Pressure rating:	PN10
Material:	Material: Red Bronze Spindle and spring: Stainless steel
Temperature range:	0 °C to 90 °C



#### RadCon Lock Shield Valve

<b>Size range:</b>	<b>DN15 to DN20</b>
Pressure rating:	PN10
Material:	Red Bronze
Temperature range:	0 °C to 120 °C



#### RadCon Thermostatic Head

Setting:	6 °C to 26 °C
Material:	Housing: Plastic, white RAL 9016 Connection: Brass nickel plated
Ambient temperature:	-10 °C to 50 °C
Connection thread:	M30x1.5





# Quality System Valves and Accessories

## Frese Butterfly Valve

Isolation Valve

### Technical Data

<b>Size range:</b>	<b>DN50-DN600</b>	
Material:	Valve body:	Ductile Iron EN GJS-450/10
	Disc:	Stainless steel AISI316
	Seat:	EPDM
Medium temperature	DN50-DN200:	-20 °C to 120 °C
	DN250-DN600:	-20 °C to 110 °C
Pressure class:	PN16	
Close off pressure:	Max. 16 Bar	
Leakage class:	ISO 5208 Rate A (zero leakage)	



## Frese Ball Valve

Isolation Valve

### Technical Data

<b>Size range:</b>	<b>DN15-DN50</b>
Material:	DZR Brass
Gasket:	PTFE
Pressure rating:	PN16
Temperature range:	-30 °C to 120 °C (see details in technote)
Connections:	ISO 228

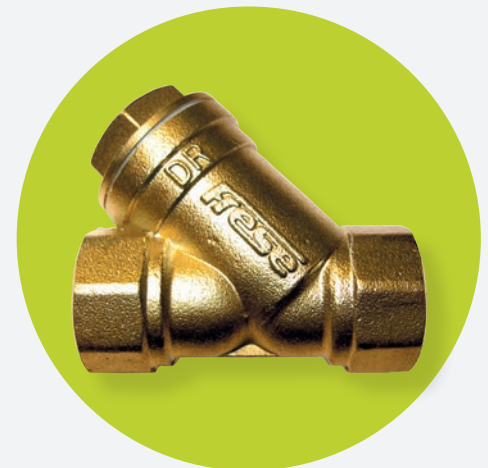


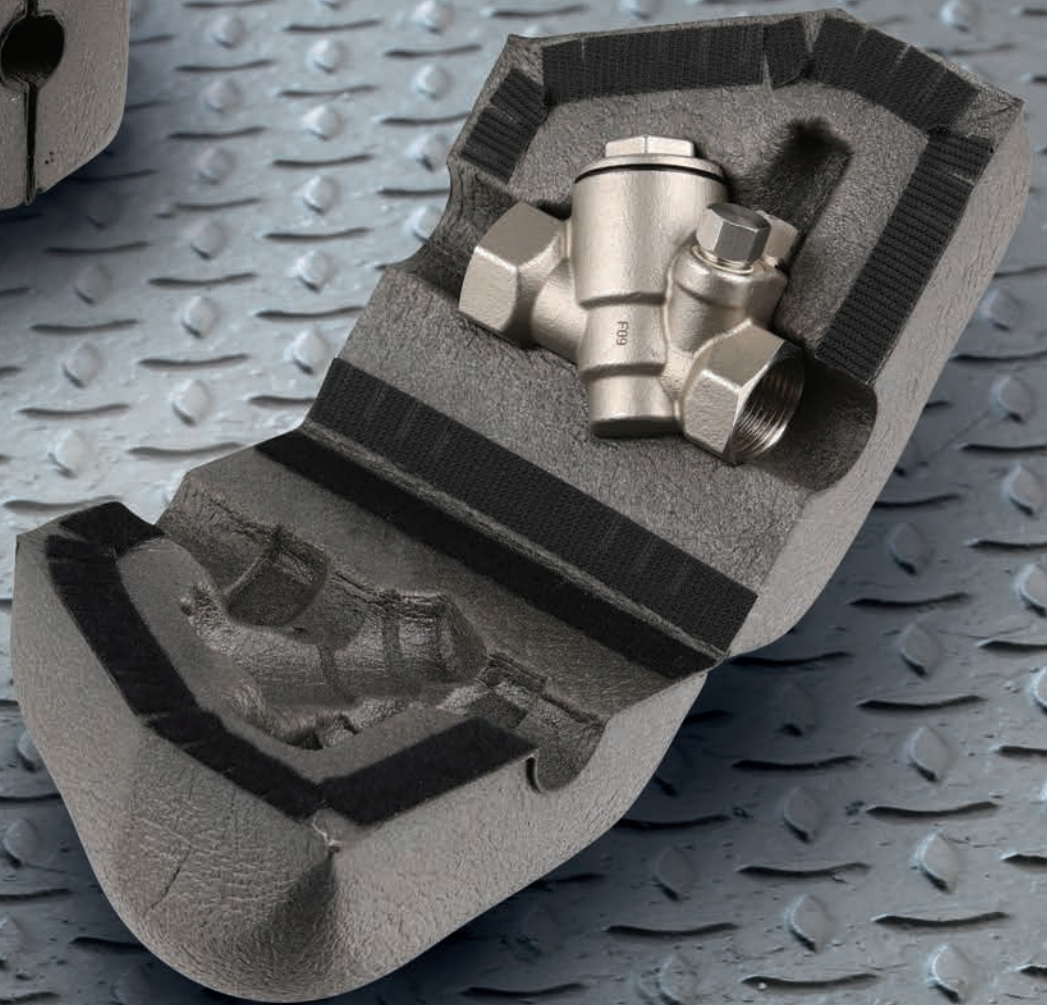
## Frese Strainer

Maximum protection of the pipeline equipment against particles and other impurities

### Technical Data

<b>Size range:</b>	<b>DN15-DN50</b>
Material:	DZR Brass
Filter:	Stainless steel
Gasket:	PTFE
Pressure rating:	PN20
Connections:	Female/Female
Accessories:	Spindle extension available





Reduced heat loss  
and better heat savings

## Insulation Covers

For ALPHA, OPTIMA Compact, PV Compact, SIGMA Compact, and STBV VODRV



### Technical Data

Material:	EPP (Expanded Polypropylene)
Water absorption:	< 2.5 vol% at 20 °C
Temperature range:	up to 120 °C
Insulating property:	Lambda = 0.039 W/mk
Density:	50 g/l
Fire resistant:	According to DIN 4102: B2



## Insulation Covers

For MODULA

### Technical Data

Material:	EPP (Expanded Polypropylene)
Water absorption:	< 2.5 vol% at 20 °C
Temperature range:	up to 90 °C
Insulating property:	Lambda = 0.039 W/mk
Density:	60 g/l
Fire resistant:	EN ISO 11925-2: E DIN 4102-1: B2 FMVSS302: Fulfilled UL94: HBF



## Flexible Hose

Quick and easy connection with union

### Technical Data

Hose & braided shield:	Stainless steel AISI 304
End connection:	Brass nut, nickel plated
End piece:	Steel ST 37.2, nickel plated
Insulation:	Elastomeric rubber foam
Pressure class:	PN25
Temperature range:	0 °C to 95 °C





Accurate Measurement  
and Verification



## Frese SMART Balance

Simple differential pressure measurement and flow verification

### Technical Data

#### Measurement range

Pressure class:	PN25
Differential pressure:	1000 kPa (10 Bar)
Static pressure:	1000 kPa (10 Bar)
System temperature (water):	-20 °C to 120 °C
Ambient temperature:	-10 °C to 40 °C

#### Measurement deviation

Differential pressure:	< 0.1 % of full scale
Flow:	< 0.1 % of full scale plus the valve deviation
Temperature:	< 0.2 °C

#### Environmental specification

Measurement sensor:	IP65, Max. 90 %RH
---------------------	-------------------



## Frese DP Manometer

For the measurement of differential pressure

### Technical Data

Operating temperature:	From 10 °C to 50 °C (ambient temperature)
Max. differential pressure:	7 bar (operating range)
Max. static pressure:	10 bar
Environmental specification:	IP67
Auto switch-off time:	12 minutes





# Product Application Guide

Frese offer a range of valves and controls for a variety of HVAC heating and cooling applications. From primary side plant valves for air handling units and chillers to secondary side valves for terminal unit applications, Frese products contribute towards a comfortable and efficient indoor climate control for buildings.

Type	Size Range	Fan Coil Units	Single Coil Terminal Units	Active Chilled Beams	Passive Chilled Beams	Over Door Heaters	Trench Heating	Underfloor Heating	Air Handling Units	Plate Heat Exchangers	Radiator Systems	Domestic Hot Water	Radiant Panels
<b>Pressure Independent Control Valves</b>													
OPTIMA Compact incl. Veriflow-series	DN10 - DN32	•		•	•	•	•	•					•
	DN40 - DN300								•	•			
COMBIFLOW 6-way valve	DN15 - DN20		•										
OPTIMIZER 6-way solution	DN15 - DN25		•										
<b>Dynamic Flow Limiting Valves</b>													
ALPHA	DN15 - DN50	•		•	•	•	•	•					•
ALPHA Wafer	DN50 - DN1000								•	•			
SIGMA Compact	DN15 - DN32	•		•	•	•	•	•					•
	DN40 - DN300								•	•			
<b>Static Balancing Valves</b>													
STBV Range	DN15 - DN50	•		•	•	•	•	•					•
	DN65 - DN500								•	•			
<b>Differential Pressure Control Valves</b>													
PV Compact incl. Spectrum-Serie	DN15 - DN32	•	•	•	•	•	•	•			•		•
	DN40 - DN50	•	•	•	•	•	•	•			•		•
	DN50 - DN200								•	•			
PV-SIGMA Compact	DN15 - DN32	•	•	•	•	•	•	•			•		•
	DN40 - DN50	•	•	•	•	•	•	•			•		•
<b>Flushing Bypass Units</b>													
MODULA Pro	DN15 - DN25	•		•	•	•	•	•			•		•
MODULA	DN15 - DN25	•		•	•	•	•	•			•		•
MODULA Direct	DN15	•		•	•	•	•	•			•		•
<b>Valves for Domestic Hot Water</b>													
CirCon	DN15 - DN20												•
TemCon	DN15 - DN20												•
ALPHA Sanitary	DN15 - DN20												•
<b>Energy Management</b>													
DELTA T Control System		•	•	•	•	•	•	•	•	•	•		•

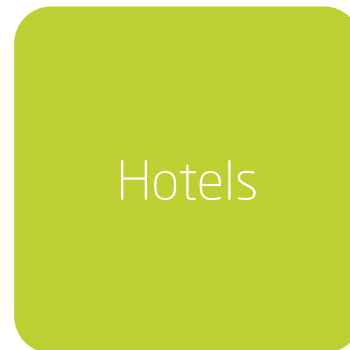
\* The application guide above shows some of the typical applications for the Frese range of products. If you have an application that is not shown in the table, please contact your local Frese office to discuss your requirements.



# Project References



Please visit  
[www.frese.eu/](http://www.frese.eu/)  
**HVAC**  
 for more details

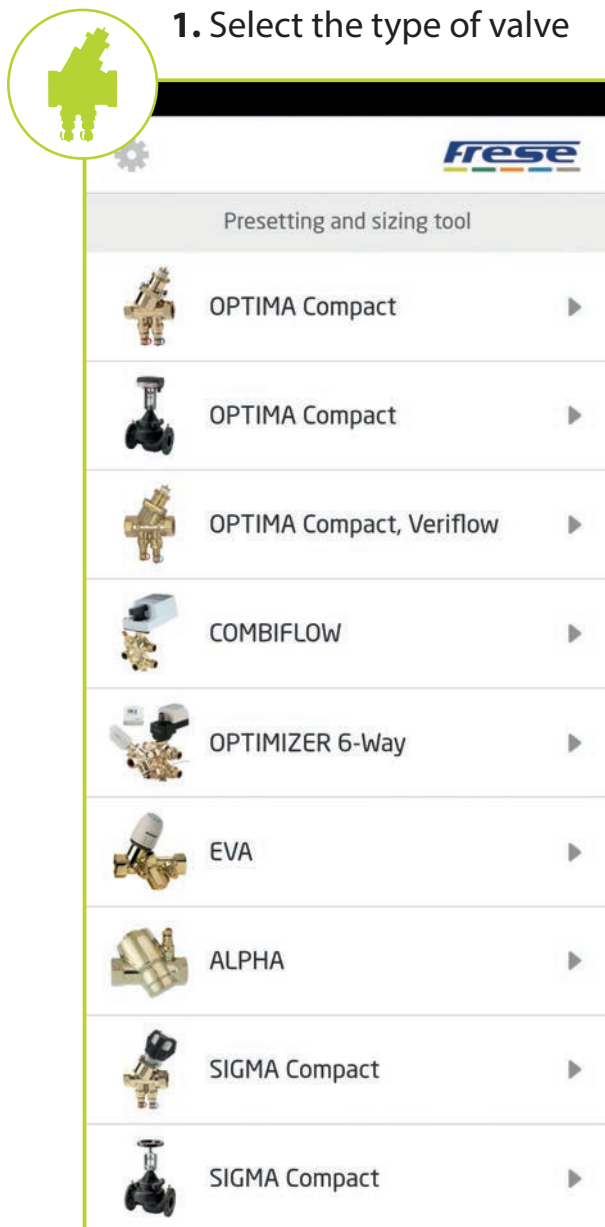


# Download the Frese App

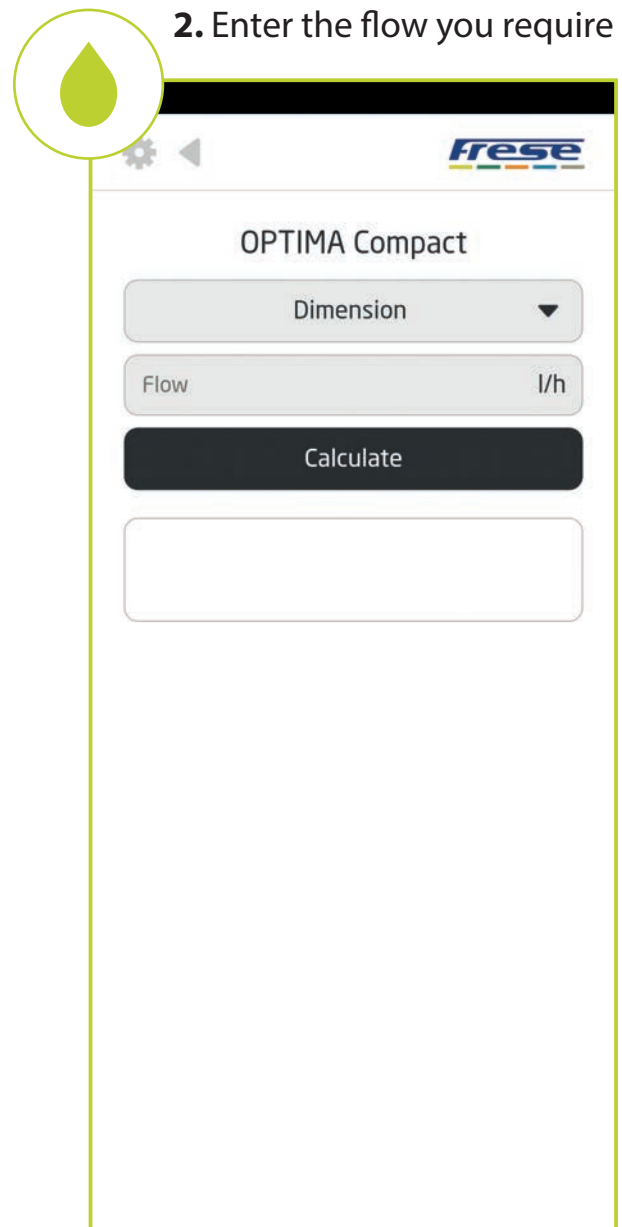
Your way to easy commissioning

Find the correct pre-setting for your dynamic balancing valves with our app

1. Select the type of valve



2. Enter the flow you require





Scan & download



## Products in the app

### Presetting and sizing tool

- OPTIMA Compact
- OPTIMA Compact, Veriflow
- COMBIFLOW
- OPTIMIZER 6-Wege
- ALPHA
- SIGMA Compact
- PV Compact
- PV-SIGMA Compact
- OPTIMA P Compact
- Frese STBV VODRV

- OPTIMA
- EVA
- PV
- PVS
- S

### Commissioning tool

- OPTIMA Compact, Veriflow
- Frese STBV VODRV

### Available in several languages:



### 3. Calculate



The screenshot shows the 'OPTIMA Compact' app interface. At the top, it displays 'OPTIMA Compact' and a dropdown menu for 'DN300 Standard HF'. Below that is a flow rate input field set to '600000 l/h' and a 'Calculate' button. The results are shown in a table:

Setting	Min. ΔP (kPa)
4.0	70

The Frese Valves app immediately calculates your valve pre-setting or your flow cartridge and the pump pressure



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[www.frese.eu/hvac](http://www.frese.eu/hvac)

**Denmark - Main Office**

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

**Germany**

Frese Armaturen GmbH  
Tel: +49 (0)241 475 82 333

**United Kingdom**

Frese Ltd  
Tel: +44 (0) 1704 896 012

**Turkey**

Frese Eurasia DIS TIC. LTD. STI.  
Tel: +90 216 580 93 60

**China**

Frese Valves (Ningbo) Co., Ltd.  
Tel: +86 (21) 5110 3212

**Saudi Arabia**

Frese Saudi Arabia  
Tel: +966 5410 25 405

**Australia & New Zealand**

Frese Asia Pacific  
Tel: +61431 794 414

**South Africa**

Frese Asia Pacific  
Tel: +61431 794 414