belparts®
BUILDING HVAC COMPONENTS

Update 09/2016

dynamx flow control valves

Reference *(Cover)*

Building: NATO Headquarters
Architect: Skidmore, Owings & Merrill (SOM) en Assa
Engineering: VK Engineering nv
Contractor: TV Cegelec - Close

References

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- Hoofdkantoor NATO, Brussel (BE)
- Tour & Taxis van Leefmilieu, Brussel (BE)
- Park Toren, Antwerpen (BE)
- Immeuble Strato, ZAC Clichy-Batignolles (FR)
- Albert Schweitzer Ziekenhuis, Dordrecht (NL)
- Immeuble Vade, Amiens (FR)
- CHU, Lodelinsart (BE)
- BGL BNP Paribas, Luxembourg (LU)
- AE, Haasrode (BE)
- Rijksmuseum, Amsterdam (NL)
- Hoofdkantoor Pidpa, Antwerpen (BE)
- Museumcomplex, Den Bosch (NL)
- MG Tower, Gent (BE)
- C&A, La Louvière (BE)
- Hoofdkantoor ING Groep, Amsterdam (NL)
- Parktoren, Amstelveen (NL)
- Trocadéro, Paris (FR)
- North Light, Brussel (BE)
- ISPPC, Charleroi (BE)
- OCMW, Izegem (BE)
- Universiteit, Leiden (NL)
- Bastion, Zoetermeer (NL)
- Zwembad, Koksijde (BE)
- Sint-Franciskusziekenhuis, Heusden (BE)
- Sportoase, Brasschaat (BE)
- Zorgcentrum Laarstede, Nistelrode (NL)
- Van der Valk Hotel, Hildesheim (NL)
- Ministerie LNV, Den Haag (NL)
- Laborelec, Linkebeek (BE)
- JUBI, Den Haag (NL)
- McAfee International, Schiphol-Rijk (NL)
- Kantoorgebouw De Groene Toren, Den Haag (NL)
- SD Worx, Hasselt (BE)
- ZNA Jan Palfijn, Merksem (BE)
- WZC Heuvelheem, Tessenderlo (BE)
- GSK GlaxoSmithKline, Waver (BE)
- GSK GlaxoSmithKline, Rixensart (BE)
- Anne Frank Museum, Amsterdam (NL)
- Hotelschool Ter Duinen, Koksijde (BE)
- ESA ESTEC, Noordwijk (NL)
- Competentiecentrum VDAB, Zeebrugge (BE)
- Politie, Grimbergen (BE)
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- OCMW, Lebbeke (BE)
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- Bedrijvenpand Q4, Lijnden (NL)
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belparts
BUILDING HVAC COMPONENTS

dynamx

DFN flow control valves

▲ standard (for non-standard products delivery delay on request)

dynamx

dynamx-valves

The *dynamx*-flow control valves combine four devices: (1) a flow-control valve, (2) a dynamic, pressure-independent balancing valve, (3) an energy monitoring device and (4) a shut-off valve.

Dynamic Flow Networking®

Simple in design, the DFN concept is centered on the use of *dynamx*-valves. They feed the exact amount of heating or cooling water to one or more consumers. When integrated with the Building Management System (BMS), they ensure precise temperature control in each and every workspace in a building.

DFN ™

How does it work?

Exact flow to each room

The *dynamx*-control valve feeds the right amount of energy to the right place at the right time. The water flow rate in the variable flow system is adapted at all times to perfectly match the energy need in a given space. This variable flow rate control enables extreme temperature precision, regardless of room occupancy.

Precise comfort control

The *dynamx*-valves can be placed in ceilings, elevated floors, or technical spaces. They are coupled to sensors and to room temperature control units. That is how precise comfort control is realised and the precise energy needs in one or several rooms can be monitored through the Building Management System (BMS) .

Primary pump optimization

The *dynamx*-valves are able to transmit the exact energy flows at every level. This information is used to control primary pumps in order to deliver the appropriate amount of heating or cooling water to the right floor. Energy consumption is optimized since only the amount of fluid that is actually required is generated and distributed.

Measuring is knowing

Reports provide a clear view of the building's energy consumption. The system generates reports on flow and temperature levels, as well as on energy flows. Energy performance can be reported for an overall building, by floor or even by individual space. Alarms can be automatically generated in the event of a problem.

dynamx valves

The *dynamx*-valve is available in different flow ranges in order to enable optimal sizing. Our *dynamx*-valves are designed to accurately control the flow through each consumer.

All *dynamx*-valves can be integrated smoothly into Building Management Systems or they can also be implemented as stand-alone devices.

European patent Nr. 2307938
Chinese patent Nr. ZL200880130728.9
Patent pending US2011/0162742
Registered community design RCD N° 001167076-0001

Belparts online 24h/24h, 7/7

Innovation, advice and tailored solutions: that is what you expect your HVAC-specialist to deliver. On top: top-notch quality, because at that level you do not want to make concessions. You are more than right. Because by choosing field equipment of the highest quality, you choose not only for comfort but also for sustainable installations and profitable investments.

For the most up-to-date technical specifications of our products, you can always consult our online product data sheets on our website:

www.belparts.com ▸ products

Of course we can provide you with a printed version of our product data sheets on simple request.

QR code

Throughout the catalogue you'll find QR Codes (matrix barcode). You can scan these QR Codes with your smartphone or tablet computer. By doing this you'll be able to read the product datasheet or download it as a PDF document.

Download the QR Reader here: **www.i-nigma.com** i-nigma

Building HVAC components

Belparts is specialized in the development, production and marketing of components for the automation of HVAC-systems in buildings. We design field components that exactly match market needs. Throughout the development process, we ensure functionality, quality en reliability.

Belparts produces field components for all areas of HVAC, whether production, distribution, or terminal control of heating and cooling, as well as ventilation. Whatever the HVAC-application, we have it covered.

Our field components are designed to be smoothly integrated with any Building Management System (BMS), Direct Digital Controller (DDC), Programmable Logic Controller (PLC), and Supervisory Control and Data Acquisition (SCADA) system.

A leading player for more than two decades

Belparts was established in 1987 by professionals from the HVAC-industry. Since then, we have developed a reputation for intelligent product design and reliable solutions. Our company has enjoyed a healthy success ever since its foundation.

Market driven innovation

We constantly strive for product and system optimizations. Our engineers incorporate the latest proven technological developments into the design of new HVAC-components and understand how to combine high quality with product affordability.

Shared competency and values

The Belparts staff shares a common passion for technology, product design, quality, and HVAC-applications. Each of our team members is both customer and results-oriented, and is trained to think 'innovation'. Integrity and responsibility are prerequisites for every employee.

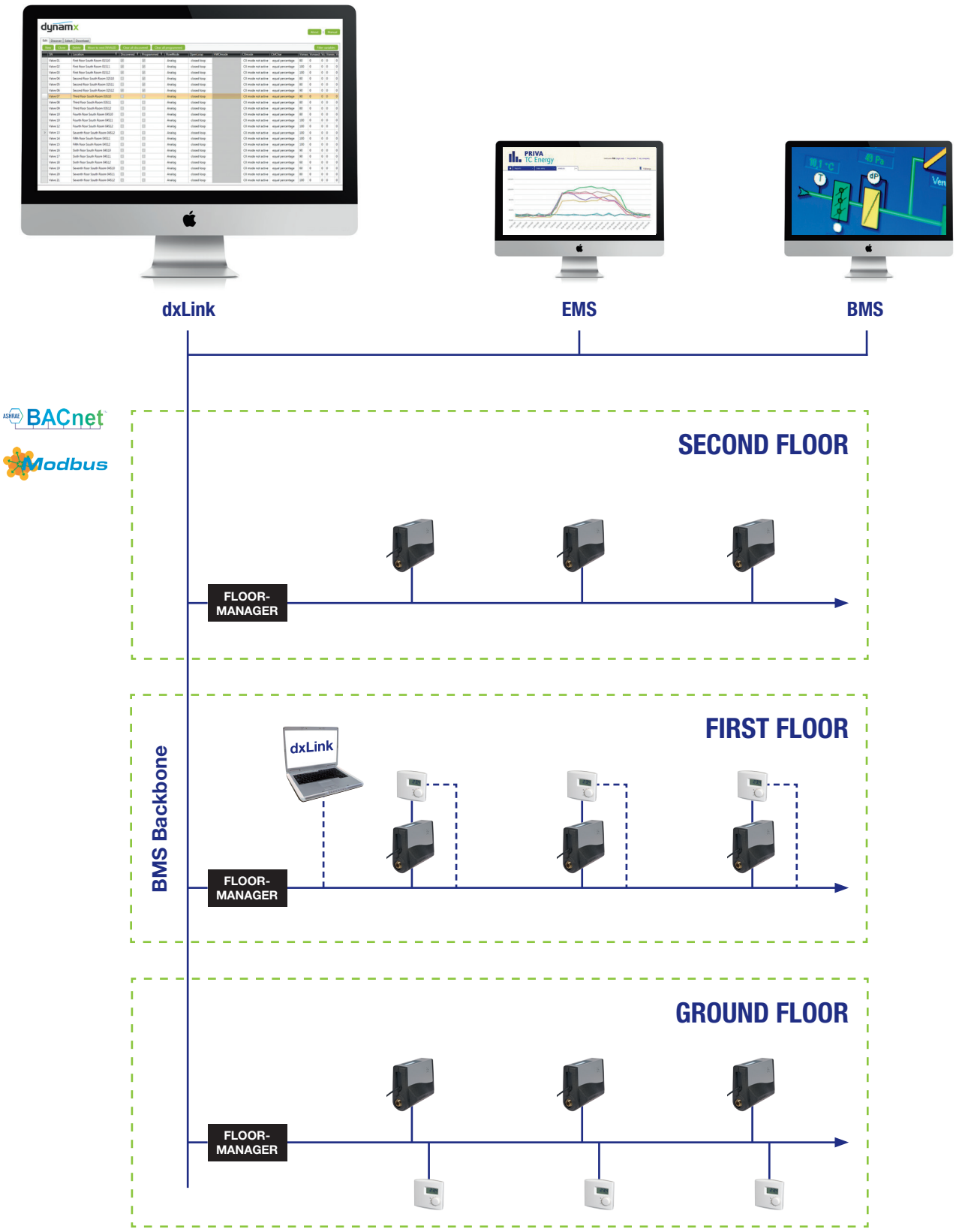
energetx

Belparts produces a broad range of components that save costs at every single point in your HVAC-system. By selecting the optimal component for each individual situation, considerable amounts of energy can be saved. Our ***energetx***-range of products includes control valves, rotating valves, valve and air damper actuators, terminal control valves, and sensors.

dynamx

Based on our revolutionary Dynamic Flow Networking (DFN) concept, our ***dynamx***-valves adjust the flow of energy exactly to the desired conditions. This ensures that only the exact amount of energy is delivered at the right place and at the right time. The result is optimal comfort and reduced energy costs.

Application example



Overview

DFN flow control valves

			flow	Δp	V_{max} [l/h]	SERIES		DN	PN16	Threaded	Flanged	T° medium	Page
●	-	-	●	-	1.400	**DXC**		G¾"	●	●	-	+15..+80 °C	**11**
-	-	●	●	-	1.400 2.500	**DXN6**		G½" G1"	●	●	-	+5..+90 °C	**12**
●	●	-	●	-	28.300	**DXMB**		15..50	●	●	-	+2..+100 °C	**14**
●	●	-	●	-	301.900	**DXU**		50..150	●	-	●	+2..+130 °C	**16**

DFN flow + Δp control valves

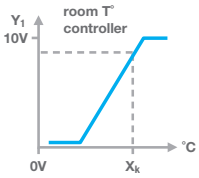
			flow	Δp	V_{max} [l/h]	SERIES		DN	PN16	Threaded	Flanged	T° medium	Page
●	●	-	●	●	28.300	**DXMBP**		15..50	●	●	-	+2..+100 °C	**17**
●	-	-	●	●	301.900	**DXUP**		50..150	●	-	●	+2..+100 °C	**18**

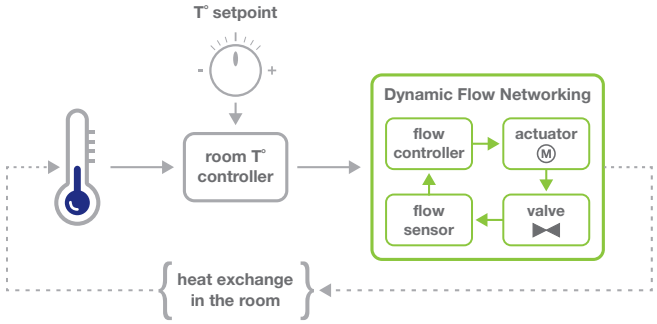
Accessories

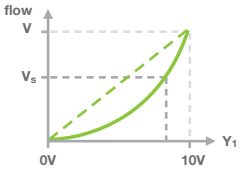
22

dynamx

European patent Nr. 2307938
Chinese patent Nr. ZL200880130728.9
Patent pending US2011/0162742
Registered community design RCD N° 001167076-0001







1 User interface

- Integrated LCD display with navigation pad
- Displays water flow, water temperature and other key values
- The user can read and modify settings

2 Hydraulics

- Flow range: 0 .. 1.400 l/h
- System pressure: PN16
- Flow characteristic: equal% or linear

3 Smart sensors

- Integrated water flow sensor
- Water temperature sensor
- No moving parts, maintenance free

4 Analog signals

- Power supply U_v : AC 24 Volt
- Control signal Y: 0..10 Vdc
- Extra Ai or Di/Do possible (option)

5 Digital signals

- Integrated bus communication interface
- Remote access to key data of the hydraulic system
- Trouble free remote troubleshooting

Energy function integrated

The *dynamx*-valves can be delivered with a momentary thermal power consumption function. It allows remote energy monitoring combined with advanced control functions for example for the control of return water temperature, etc.

DXC • dxCompact flow control valve

- Power supply U_V : AC 24 Volt -10%.. +20%, 50 Hz
- Control signal Y_1 : 0..10 Vdc or via MODBUS
- T° sensor(s) : with or without T_1 and/or T_2 medium temperature sensor(s)
- System connection : flat connections according ISO228-1 (G¾") PN16
- Medium : water, +15°C..+80°C [1)]
- Buscommunicatie : MODBUS RTU/MSTP (RS485)
- User interface : LCD display with navigation pad
- Accessories : on page 22

TYPE				DN	G	V_{10}	V_{max}	Δp_s	Sensors flow	Sensors Δp	Sensors T_1	Sensors T_2	CC	A00	Lc
						[l/h]	[l/h]	[kPa]							[m]
DXC2P020U.11411	●	-	-	20	¾"	607	1.400	150	●	-	●	-	-	-	2
DXC2P020U.11421	●	-	●	20	¾"	607	1.400	150	●	-	●	●	-	-	2
DXC5P020U.11421	●	-	●	20	¾"	607	1.400	150	●	-	●	●	●	-	2
DXC2P020A00.11411	●	-	-	20	¾"	607	1.400	150	●	-	●	-	-	●	2
DXC2P020A00.11421	●	-	●	20	¾"	607	1.400	150	●	-	●	●	-	●	2
DXC5P020A00.11421	●	-	●	20	¾"	607	1.400	150	●	-	●	●	●	●	2

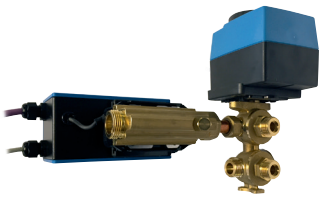
For information on the selection and sizing, see page 20 and 21.

remote energy monitoring
V_{10} flow range at 10kPA
V_{max} flow range (0..V_{max})
Δp_s maximum close-off pressure
T_1 built-in medium T° sensor, typically for measuring return water T°
T_2 2nd wired T° sensor, typically for measuring supply water T° (cable length 3m)
CC integrated change-over function for 2 or 4-pipe climate ceilings
A00 integrated room temperature control
Lc length of the main cable
[1)] other temperature ranges available on request
▲ standard

datasheet

DXN6 • dxNeo flow control valves, straight

- Power supply U_V : AC 24 Volt ±10%, 50 Hz
- Control signal Y_1 : 0..10 Vdc or via MODBUS
- T° sensor(s) : optional with T_1 and/or T_2 medium temperature sensor(s)
- System connection : threaded connections G½" or G1", PN16
- Medium : water, +5°C..+90°C
- Communication : MODBUS RTU/MSTP (RS485)
- User interface : optional LCD display with navigation pad
- Accessories : on page 22



DXN6P15A.33401

TYPE					DN	V_{10}	V_{max}	Δp_s	Sensors flow	Sensors Δp	Sensors T_1	Sensors T_2	Lc
						[l/h]	[l/h]	[kPa]					[m]
DXN6P15A.33401	▲	-	●	-	15	443	1.400	200	●	-	-	-	2
DXN6P25A.33401	▲	-	●	-	25	791	2.500	200	●	-	-	-	2

Options

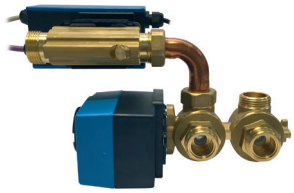
DXN6P__A.__0__	without MODBUS RTU/MSTP (RS485) communication interface
DXN6P__A.1____	with LCD display
DXN6P__A.___1_	with T_1 medium temperature sensor
DXN6P__A.___2_	with T_1 and T_2 medium temperature sensors

For information on the selection and sizing, see page 20 and 21.

	remote energy monitoring	**T_1**	sensor Nr.1 for medium T° measurement	**datasheet**	
V_{10}	flow range at 10kPa	**T_2**	sensor Nr.2 for medium T° measurement		
V_{max}	flow range (0..V_{max})	**Lc**	length of the main cable		
Δp_s	maximum close-off pressure	▲	standard		

DXN6 • dxNeo flow control valves, angled

- Power supply U_V : AC 24 Volt ±10%, 50 Hz
- Control signal Y_1 : 0..10 Vdc or via MODBUS
- T° sensor(s) : optional with T_1 and/or T_2 medium temperature sensor(s)
- System connection : threaded connections G½" or G1", PN16
- Medium : water, +5°C..+90°C
- Communication : MODBUS RTU/MSTP (RS485)
- User interface : optional LCD display with navigation pad
- Accessories : on page 22



DXN6P25A.32401

TYPE				DN	V_{10}	V_{max}	Δp_s	Sensors flow	Sensors Δp	Sensors T_1	Sensors T_2	Lc
					[l/h]	[l/h]	[kPa]					[m]
DXN6P15A.32401 ▲	-	●	-	15	443	1.400	200	●	-	-	-	2
DXN6P25A.32401 ▲	-	●	-	25	791	2.500	200	●	-	-	-	2

Opties

DXN6P__A.__0__	without MODBUS RTU/MSTP (RS485) communication interface
DXN6P__A.1____	with LCD display
DXN6P__A.___1_	with T_1 medium temperature sensor
DXN6P__A.___2_	with T_1 and T_2 medium temperature sensors

ⓘ For information on the selection and sizing, see page 20 and 21.

remote energy monitoring
V_{10} flow range at 10kPa
V_{max} flow range (0..V_{max})
Δp_s maximum close-off pressure
T_1 sensor Nr.1 for medium T° measurement
T_2 sensor Nr.2 for medium T° measurement
Lc length of the main cable
▲ standard

datasheet

DXMB3 • dxModular flow control valves, 3-way

- Power supply U_V : AC 24 Volt ±10%, 50 Hz
- Control signal Y_1 : 0..10 Vdc or via MODBUS
- T° sensor(s) : with T_1 and T_2 medium temperature sensor(s)
- System connection : DN15..DN50 threaded connections PN16
- Medium : water, +2°C..+100°C
- Communication : MODBUS RTU/MSTP (RS485)
- User interface : LCD display with navigation pad
- Accessories : on page 22

TYPE				DN	V_{10}	V_{max}	Δp_s	Sensors flow	Sensors Δp	Sensors T_1	Sensors T_2	Lc
					[l/h]	[l/h]	[kPa]					[m]
DXMB3D015A.11421	▲	-	●	●	15	1.202	3.800	200	●	-	●	●	2
DXMB3D020A.11421	▲	-	●	●	20	1.802	5.700	200	●	-	●	●	2
DXMB3D025A.11421	▲	-	●	●	25	2.530	8.000	200	●	-	●	●	2
DXMB3D032A.11421	▲	-	●	●	32	3.257	10.300	200	●	-	●	●	2
DXMB3D040A.11421	▲	-	●	●	40	6.704	21.200	200	●	-	●	●	2
DXMB3D050A.11421	▲	-	●	●	50	8.949	28.300	200	●	-	●	●	2

Options

DXMB3____A.__0__		without MODBUS RTU/MSTP (RS485) communication interface
DXMB3____A.3____		without LCD display
DXMB3____A.___1_		with only one medium temperature sensor (T_1)
DXMB3____A.___0_	▲	without T_1 and T_2 medium temperature sensors

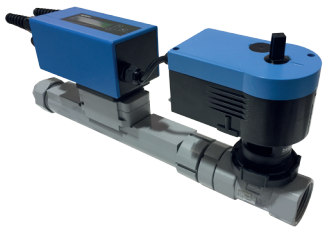
For information on the selection and sizing, see page 20 and 21.

remote energy monitoring
V_{10} flow range at 10kPa
V_{max} flow range (0..V_{max})
Δp_s maximum close-off pressure
T_1 sensor Nr.1 for medium T° measurement
T_2 sensor Nr.2 for medium T° measurement
Lc length of the main cable
▲ standard

datasheet

DXMB2 • dxModular flow control valves, 2-way

- Power supply U_V : AC 24 Volt ±10%, 50 Hz
- Control signal Y_1 : 0..10 Vdc or via MODBUS
- T° sensor(s) : with T_1 and T_2 medium temperature sensor(s)
- System connection : DN15..DN50 threaded connections PN16
- Medium : water, +2°C..+100°C
- Communication : MODBUS RTU/MSTP (RS485)
- User interface : LCD display with navigation pad
- Accessories : on page 22



TYPE				DN	V_{10}	V_{max}	Δp_s	Sensors flow	Sensors Δp	Sensors T_1	Sensors T_2	Lc
					[l/h]	[l/h]	[kPa]					[m]
DXMB2D015A.11421	▲	●	-	●	15	1.202	3.800	240	●	-	●	●	2
DXMB2D020A.11421	▲	●	-	●	20	1.802	5.700	240	●	-	●	●	2
DXMB2D025A.11421	▲	●	-	●	25	2.530	8.000	240	●	-	●	●	2
DXMB2D032A.11421	▲	●	-	●	32	3.257	10.300	240	●	-	●	●	2
DXMB2D040A.11421	▲	●	-	●	40	6.704	21.200	240	●	-	●	●	2
DXMB2D050A.11421	▲	●	-	●	50	8.949	28.300	240	●	-	●	●	2

Options

DXMB2____A.__0__	without MODBUS RTU/MSTP (RS485) communication interface
DXMB2____A.3____	without LCD display
DXMB2____A.___1_	with only one medium temperature sensor (T_1)
DXMB2____A.___0_ ▲	without T_1 and T_2 medium temperature sensors

For information on the selection and sizing, see page 20 and 21.

remote energy monitoring
V_{10} flow range at 10kPa
V_{max} flow range (0..V_{max})
Δp_s maximum close-off pressure
T_1 sensor Nr.1 for medium T° measurement
T_2 sensor Nr.2 for medium T° measurement
Lc length of the main cable
▲ standard

datasheet

DXU3 • dxUltima flow control valves, 3-way

- Power supply U_V : AC 24 Volt ±10%, 50 Hz
- Control signal Y_1 : 0..10 Vdc or via MODBUS
- T° sensor(s) : with T_1 and/or T_2 medium temperature sensor(s)
- System connection : DN50..DN150 flanged connections PN16, according EN 1092
- Medium : water, +2°C..+130°C
- Communication : MODBUS RTU/MSTP (RS485)
- User interface : LCD display with navigation pad
- Accessories : on page 22

TYPE				DN	V_{10}	V_{max}	Δp_s	Sensors flow	Sensors Δp	Sensors T_1	Sensors T_2	Lc
					[l/h]	[l/h]	[kPa]					[m]
DXU3F050A.11421	▲	-	●	●	50	8.949	28.300	150	●	-	●	●	2
DXU3F050A.12421		-	●	●	50	8.949	28.300	350	●	-	●	●	2
DXU3F065A.11421	▲	-	●	●	65	16.950	53.600	100	●	-	●	●	2
DXU3F065A.12421		-	●	●	65	16.950	53.600	350	●	-	●	●	2
DXU3F080A.11421	▲	-	●	●	80	27.607	87.300	230	●	-	●	●	2
DXU3F080A.12421		-	●	●	80	27.607	87.300	350	●	-	●	●	2
DXU3F100A.11421	▲	-	●	●	100	46.485	147.000	140	●	-	●	●	5
DXU3F100A.12421		-	●	●	100	46.485	147.000	500	●	-	●	●	5
DXU3F125A.11421	▲	-	●	●	125	62.012	196.100	160	●	-	●	●	5
DXU3F125A.12421		-	●	●	125	62.012	196.100	370	●	-	●	●	5
DXU3F150A.11421	▲	-	●	●	150	95.469	301.900	120	●	-	●	●	5
DXU3F150A.12421		-	●	●	150	95.469	301.900	270	●	-	●	●	5

Options

DXU3____A.__0__		without MODBUS RTU/MSTP (RS485) communication interface
DXU3____A.3____		without LCD display
DXU3____A.___1_		with only one medium temperature sensor (T_1)
DXU3____A.___0_	▲	without T_1 and T_2 medium temperature sensors

For information on the selection and sizing, see page 20 and 21.

	remote energy monitoring	T_1	sensor Nr.1 for medium T° measurement
V_{10}	flow range at 10kPa	T_2	sensor Nr.2 for medium T° measurement
V_{max}	flow range (0..V_{max})	Lc	length of the main cable
Δp_s	maximum close-off pressure	▲	standard

datasheet

DXU2 • dxUltima flow control valves, 2-way

- Power supply U_V : AC 24 Volt ±10%, 50 Hz
- Control signal Y_1 : 0..10 Vdc or via MODBUS
- T° sensor(s) : with T_1 and T_2 medium temperature sensor(s)
- System connection : DN50..DN150 flanged connections PN16, according EN 1092
- Medium : water, +2°C..+130°C
- Communication : MODBUS RTU/MSTP (RS485)
- User interface : LCD display with navigation pad
- Accessories : on page 22

TYPE				DN	V_{10}	V_{max}	Δp_s	Sensors flow	Sensors Δp	Sensors T_1	Sensors T_2	Lc
					[l/h]	[l/h]	[kPa]					[m]
DXU2F050A.11421 ▲	●	-	●	50	8.949	28.300	150	●	-	●	●	2
DXU2F050A.12421	●	-	●	50	8.949	28.300	350	●	-	●	●	2
DXU2F065A.11421 ▲	●	-	●	65	16.950	53.600	100	●	-	●	●	2
DXU2F065A.12421	●	-	●	65	16.950	53.600	350	●	-	●	●	2
DXU2F080A.11421 ▲	●	-	●	80	27.607	87.300	230	●	-	●	●	2
DXU2F080A.12421	●	-	●	80	27.607	87.300	350	●	-	●	●	2
DXU2F100A.11421 ▲	●	-	●	100	46.485	147.000	140	●	-	●	●	5
DXU2F100A.12421	●	-	●	100	46.485	147.000	500	●	-	●	●	5
DXU2F125A.11421 ▲	●	-	●	125	62.012	196.100	160	●	-	●	●	5
DXU2F125A.12421	●	-	●	125	62.012	196.100	370	●	-	●	●	5
DXU2F150A.11421 ▲	●	-	●	150	95.469	301.900	120	●	-	●	●	5
DXU2F150A.12421	●	-	●	150	95.469	301.900	270	●	-	●	●	5

Options

DXU2____A.__0__	without MODBUS RTU/MSTP (RS485) communication interface
DXU2____A.3____	without LCD display
DXU2____A.___1_	with only one medium temperature sensor (T_1)
DXU2____A.___0_	without T_1 and T_2 medium temperature sensors

For information on the selection and sizing, see page 20 and 21.

remote energy monitoring
V_{10} flow range at 10kPa
V_{max} flow range (0..V_{max})
Δp_s maximum close-off pressure
T_1 sensor Nr.1 for medium T° measurement
T_2 sensor Nr.2 for medium T° measurement
Lc length of the main cable
▲ standard

datasheet

DXMBP • dxModular flow + Δp control valves, 2-way

- Power supply U_V : AC 24 Volt ±10%, 50 Hz
- Control signal Y_1 : 0..10 Vdc or via MODBUS
- T° sensor(s) : with T_1 and T_2 medium temperature sensor(s)
- System connection : DN15..DN50 threaded connections PN16
- Medium : water, +2°C..+100°C
- Communication : MODBUS RTU/MSTP (RS485)
- User interface : LCD display with navigation pad
- Δp_{range} : 0..1 bar (optional: 0..2 bar)

TYPE				DN	V_{10}	V_{max}	Δp_s	Sensors flow	Sensors Δp	Sensors T_1	Sensors T_2	Δp_{range}	Lc
					[l/h]	[l/h]	[kPa]					[bar]	[m]
DXMBP2D015A.11421 ▲	-	●	●	15	1.202	3.800	240	●	●	●	●	0..1	2
DXMBP2D020A.11421 ▲	-	●	●	20	1.802	5.700	240	●	●	●	●	0..1	2
DXMBP2D025A.11421 ▲	-	●	●	25	2.530	8.000	240	●	●	●	●	0..1	2
DXMBP2D032A.11421 ▲	-	●	●	32	3.257	10.300	240	●	●	●	●	0..1	2
DXMBP2D040A.11421 ▲	-	●	●	40	6.704	21.200	240	●	●	●	●	0..1	2
DXMBP2D050A.11421 ▲	-	●	●	50	8.949	28.300	240	●	●	●	●	0..1	2

Options

DXMBP2____A.__0__	without MODBUS RTU/MSTP (RS485) communication interface
DXMBP2____A.3____	without LCD display
DXMBP2____A.___1_	with only one medium temperature sensor (T_1)
DXMBP2____A.___0_ ▲	without T_1 and T_2 medium temperature sensors

For information on the selection and sizing, see page 20 and 21.

remote energy monitoring
V_{10} flow range at 10kPa
V_{max} flow range (0..V_{max})
Δp_s maximum close-off pressure
T_1 sensor Nr.1 for medium T° measurement
T_2 sensor Nr.2 for medium T° measurement
Δp_{range} measuring range differential pressure
Lc length of the main cable
▲ standard

datasheet

DXUP • dxUltima flow + Δp control valves, 2-way

- Power supply U_V : AC 24 Volt ±10%, 50 Hz
- Control signal Y_1 : 0..10 Vdc or via MODBUS
- T° sensor(s) : with T_1 and T_2 medium temperature sensor(s)
- System connection : DN50..DN150 flanged connections PN16, according EN 1092
- Medium : water, +2°C..+100°C
- Communication : MODBUS RTU/MSTP (RS485)
- User interface : LCD display with navigation pad
- Δp_{range} : 0..1 bar (optional: 0..2 bar)

TYPE				DN	V_{max}	V_{10}	Δp_s	Sensors flow	Sensors Δp	Sensors T_1	Sensors T_2	Δp_{range}	Lc
					[l/h]	[l/h]	[kPa]					[bar]	[m]
DXUP2F050A.11421 ▲	●	-	●	50	28.300	8.949	150	●	●	●	●	0..1	2
DXUP2F050A.12421	●	-	●	50	28.300	8.949	350	●	●	●	●	0..1	2
DXUP2F065A.11421 ▲	●	-	●	65	53.600	16.950	100	●	●	●	●	0..1	2
DXUP2F065A.12421	●	-	●	65	53.600	16.950	350	●	●	●	●	0..1	2
DXUP2F080A.11421 ▲	●	-	●	80	87.300	27.607	230	●	●	●	●	0..1	2
DXUP2F080A.12421	●	-	●	80	87.300	27.607	350	●	●	●	●	0..1	2
DXUP2F100A.11421 ▲	●	-	●	100	147.000	46.485	140	●	●	●	●	0..1	5
DXUP2F100A.12421	●	-	●	100	147.000	46.485	500	●	●	●	●	0..1	5
DXUP2F125A.11421 ▲	●	-	●	125	196.100	62.012	160	●	●	●	●	0..1	5
DXUP2F125A.12421	●	-	●	125	196.100	62.012	370	●	●	●	●	0..1	5
DXUP2F150A.11421 ▲	●	-	●	150	301.900	95.469	120	●	●	●	●	0..1	5
DXUP2F150A.12421	●	-	●	150	301.900	95.469	270	●	●	●	●	0..1	5

Options

DXUP2____A.__0__	without MODBUS RTU/MSTP (RS485) communication interface
DXUP2____A.3____	without LCD display
DXUP2____A.___1_	with only one medium temperature sensor (T_1)
DXUP2____A.___0_ ▲	without T_1 and T_2 medium temperature sensors

For information on the selection and sizing, see page 20 and 21.

- remote energy monitoring
- **V_{10}** flow range at 10kPa
- **V_{max}** flow range (0..V_{max})
- **Δp_s** maximum close-off pressure
- **T_1** sensor Nr.1 for medium T° measurement
- **T_2** sensor Nr.2 for medium T° measurement
- **Δp_{range}** measuring range differential pressure
- **Lc** length of the main cable
- ▲ standard

datasheet

Pressure loss for pump head calculation

The selection of classic (mechanical) control valves entails compromising between a small K_{vs} value (good authority but also a large differential pressure) and a large K_{vs} value (low differential pressure but a smaller authority). *Dynamx*-flow control valves guarantee absolute authority at all times as a consequence of the fast flow control. This is true even when selecting a much larger K_{vs} value than suggested by the classic rules of thumb. Even small control deviations are prevented under all allowed differential pressure conditions. Hence a *dynamx*-valve is not selected based on K_{vs} but based on the nominal (= absolute maximum) flow V_{nom} being equal to or greater than the design flow in full load.

Often several *dynamx*-valves can be selected, each one with a different (listed) K_{vs} value. The Kvs value can then be used to determine the pressure difference over de valve and with that to size the pump. The larger the K_{vs} value of the selected *dynamx*, the lower is the required pump head.

1. Choose the type of *dynamx*-valve: flow (standard) or flow + Δp
2. Determine the application of the *dynamx*-control valve: 2-port or 3-port valve or 6-way valve with change-over function
3. Depending on the type you select, you'll find the corresponding K_{vs} value
4. Calculate the pressure difference over the valve *dynamx* flow control valve on the basis of the K_{vs}-value and/or check the design flow rate on the basis of the indicative values (for example, V_{10})

DN nominal diameter

in connection type and dimensions inlet side

out connection type and dimensions outlet side

K_{vs} the K_{vs}-value corresponds to the K_v-value when the control valve is fully opened H_{100}. The K_v-value corresponds to the quantity of water (in m^3/h) with a temperature of +5…+30°C passing through a control valve in open position H with a differential pressure 1 bar Δp_v.

V_{max} the design flow can be chosen at a value equal or lower than the maximum flow rate (V_{max})
the value V_{max} corresponds to a theoretical flow with a differential pressure of 100kPa (1 bar)

V_5 flow obtained at 5kPa differential pressure 5kPa

V_{10} flow obtained at 5kPa differential pressure 10kPa

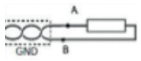
V_{20} flow obtained at 5kPa differential pressure 20kPa

V_{30} flow obtained at 5kPa differential pressure 30kPa

Overview

TYPE				DN	in	out	K_{vs}	V_5	V_{10}	V_{20}	V_{30}	V_{max}
							[m^3/h]	[l/h]	[l/h]	[l/h]	[l/h]	[l/h]
DXC2	●	-	-	20	G ¾"	G ¾"	1,9	429	607	859	1.052	0..1.400
DXC5	●	-	-	20	G ¾"	G ¾"	1,9	429	607	859	1.052	0..1.400
DXN6P15A	-	-	●	15	G ½"	G ½"	1,4	313	443	626	767	0..1.400
DXN6P25A	-	-	●	25	G 1"	G 1"	2,5	559	791	1.118	1.369	0..2.500
DXMB(P)2D015A	●	-	-	15	Rp ½"	Rp ½"	3,8	850	1.202	1.699	2.081	0..3.800
DXMB(P)2D020A	●	-	-	20	Rp ¾"	Rp ¾"	5,7	1.275	1.802	2.549	3.122	0..5.700
DXMB(P)2D025A	●	-	-	25	Rp ¾"	Rp 1"	8,0	1.789	2.530	3.578	4.382	0..8.000
DXMB(P)2D032A	●	-	-	32	Rp ¾"	Rp 1¼"	10,3	2.303	3.257	4.606	5.642	0..10.300
DXMB(P)2D040A	●	-	-	40	Rp 1¼"	Rp 1½"	21,2	4.740	6.704	9.481	11.612	0..21.200
DXMB(P)2D050A	●	-	-	50	Rp 1¼"	Rp 2"	28,3	6.328	8.949	12.656	15.501	0..28.300
DXMB3D015A	-	●	-	15	Rp ½"	Rp ½"	3,8	850	1.202	1.699	2.081	0..3.800
DXMB3D020A	-	●	-	20	Rp ¾"	Rp ¾"	5,7	1.275	1.802	2.549	3.122	0..5.700
DXMB3D025A	-	●	-	25	Rp ¾"	Rp 1"	8,0	1.789	2.530	3.578	4.382	0..8.000
DXMB3D032A	-	●	-	32	Rp ¾"	Rp 1¼"	10,3	2.303	3.257	4.606	5.642	0..10.300
DXMB3D040A	-	●	-	40	Rp 1¼"	Rp 1½"	21,2	4.740	6.704	9.481	11.612	0..21.200
DXMB3D050A	-	●	-	50	Rp 1¼"	Rp 2"	28,3	6.328	8.949	12.656	15.501	0..28.300
DXU(P)2F050A	●	-	-	50	-	-	28,3	6.328	8.949	12.656	15.501	0..28.300
DXU(P)2F065A	●	-	-	65	-	-	53,6	11.985	16.950	23.971	29.358	0..53.600
DXU(P)2F080A	●	-	-	80	-	-	87,3	19.521	27.607	39.042	47.816	0..87.300
DXU(P)2F100A	●	-	-	100	-	-	147,0	32.870	46.485	65.740	80.515	0..147.000
DXU(P)2F125A	●	-	-	125	-	-	196,1	43.849	62.012	87.699	107.408	0..196.100
DXU(P)2F150A	●	-	-	150	-	-	301,9	67.507	95.469	135.014	165.357	0..301.900
DXU3F050A	-	●	-	50	-	-	28,3	6.328	8.949	12.656	15.501	0..28.300
DXU3F065A	-	●	-	65	-	-	53,6	11.985	16.950	23.971	29.358	0..53.600
DXU3F080A	-	●	-	80	-	-	87,3	19.521	27.607	39.042	47.816	0..87.300
DXU3F100A	-	●	-	100	-	-	147,0	32.870	46.485	65.740	80.515	0..147.000
DXU3F125A	-	●	-	125	-	-	196,1	43.849	62.012	87.699	107.408	0..196.100
DXU3F150A	-	●	-	150	-	-	301,9	67.507	95.469	135.014	165.357	0..301.900

Accessories

TYPE		Description
DX.10H.009701		T-piece for TSK with integrated ball valve DN15
DX.10H.009702		T-piece for TSK with integrated ball valve DN20
DX.10H.009703		T-piece for TSK with integrated ball valve DN25
DX.10S.009463		Immersion probes R½" for TSKS sensor **65mm**
DX.10S.009681		Immersion probes R½" for TSKS sensor **90mm**
DX.10H.009056		Nipple for TSK R½" x M10
DX.10H.008858		Nipple for TSK R¾" x M10
T.NB.G34		Valve connection parts for DXC (brass): - 1pc tailpiece with outside thread (R½") - 1pc nut with inside thread (G¾") with sealing
T.N6.SBU12		Set of tailpieces for DXN6P25: - 2pcs tailpiece with external thread (G½") - 2pcs nut with inside thread (G1") - 2pcs sealing
T.N6.SBU34		Set of tailpieces for DXN6P25: - 2pcs tailpiece with external thread (G¾") - 2pcs nut with inside thread (G1") - 2pcs sealing
DX.10E.009940		License dxLink: - dxLink software for MS Windows PC - unlimited number of DX.. units can be commissioned - 1pc conversion cable (RS485 to USB) included
DX.10H.009941		Bus termination resistor pair (120Ω): *Note: every RS485 network, including a DX.. MODBUS network, should be terminated by a 120Ω termination resistor at each end of the bus*
DX.10E.009942		Cable with conversion of RS485 to USB - connecting a DX.. unit via PC or MODBUS RS485 network - requires dxLink software to be installed on MS Windows PC

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