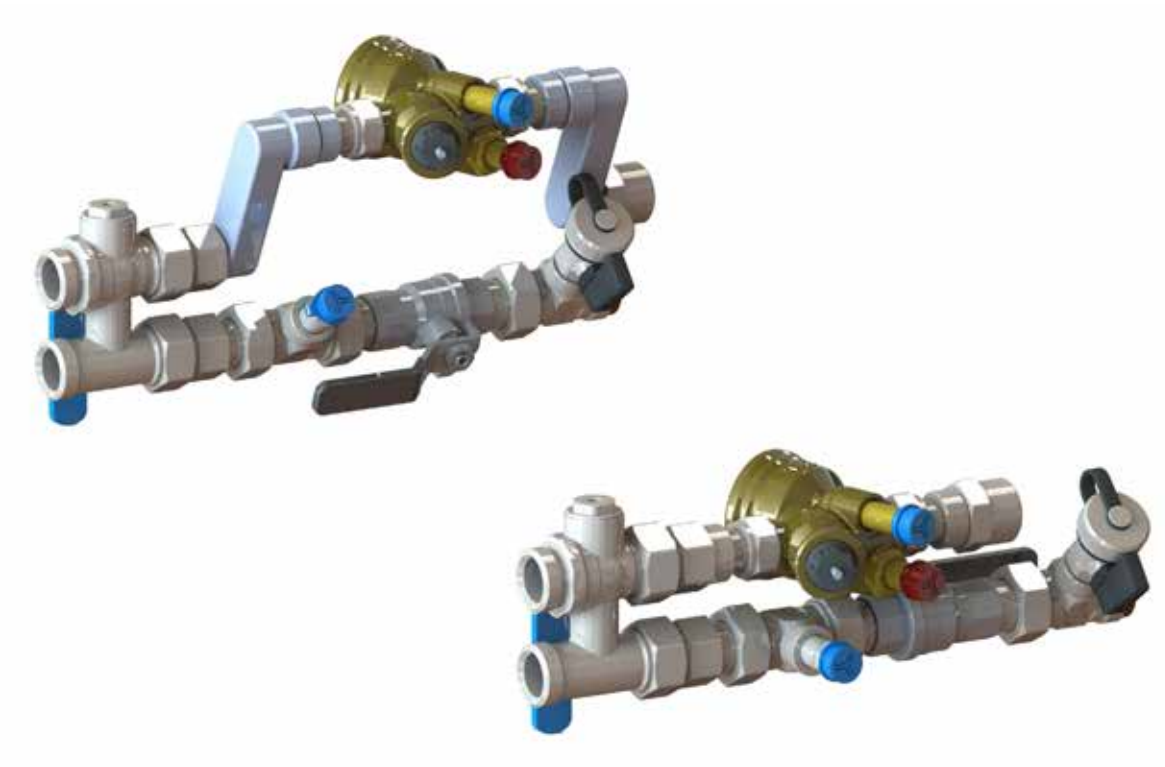
IMI TA

TA-Mini-Fast-Fit



Prefab units

Fabricated solutions for small terminal units

IMI Hydronic Engineering

Breakthrough Engineering

TA-Mini-Fast-Fit

Compact pressure independent solution for modulating or on/off control. Ideal solution for pre-assembled installations on a c-c 40 mm fan-coil unit.

Key features

- **Highly reliable**
  Pressure tested unit with security marked joints reduces the risk of leakage.
- **Quick hydronic balancing**
  The pressure independent solution provides direct setting of the max flow.
- **Easy installation**
  Each unit is uniquely labeled as required.
- **Precise flow control**
  The modulating version provides uniquely shaped EQM characteristic for best modulating control.

Technical description

Applications:
Heating and cooling systems.

Functions:
Control (EQM or Linear)
Pre-setting (max flow)
Differential pressure control
Measuring (q, T, ΔH)
Isolation function for use during system maintenance – see “Leakage rate”
Flushing
Strainer (optional)

Dimensions:
DN 15

Pressure class:
PN 16

Differential pressure (ΔpV):
Max. differential pressure (ΔpV_{max}):
400 kPa = 4 bar
Min. differential pressure (ΔpV_{min}):
See “Sizing”.
(Valid for max flow setting, position 10. Other positions will require lower differential pressure, see sizing diagram.)

Flow range:
The flow (q_{max}) can be set within the range:
Modulating version (EQM characteristic)
DN 15 NF: 92 - 480 l/h
DN 15 HF: 200 - 975 l/h
On/off version (linear characteristic)
DN 15 ULF: 21.5 - 120 l/h
DN 15 LF: 44 - 245 l/h
DN 15 NF: 88 - 470 l/h
DN 15 HF: 210 - 1150 l/h
(ULF = Ultra low flow, LF = Low flow, NF = Normal flow, HF = High flow)
q_{max} = l/h at each setting and fully open valve plug.

Temperature:
Max. working temperature: 90°C
Min. working temperature: -10°C

Media:
Water or neutral fluids, water-glycol mixtures (0-57%).

Leakage rate:
Ball valves: Level A (EN 12266-1/12 - P12).
TA-Modulator, TA-COMPACT-P: Leakage flow ≤ 0,01% of max. q_{max} (setting 10) and correct flow direction. (Class IV according to EN 60534-4).

Lift:
4 mm

Characteristics:
TA-Modulator: EQM, best suited for modulating control.
TA-COMPACT-P: Linear, best suited for on/off control.

Material:
TA-Modulator, TA-COMPACT-P and TA-BAV:
See separate technical leaflets.

Strainer ball valve:
Body: DZR CW602N
Closing end nut: DZR CW602N
Stem: DZR CW602N
Steam bearing: PTFE
Stem O-ring: FKM
Ball: DZR CW602N
Ball seat: PTFE
Filter: Stainless steel AISI 304
Filter cap: DZR CW602N
Filter cap O-ring: EPDM
Filter locking ring: Phosphorus bronze

H-bypass valve:
Body: CW617N
Closing end nut: CW614N
Stem: CW614N
Stem O-ring: NBR
Ball: CW614N
Ball seat: PTFE
Closing cap: CW614N
Closing cap seat: PTFE
Cosing cap O-ring: EPDM

Drain valve:
Body: CW617N
Closing end nut: CW614N
Stem: CW614N
O-rings: EPDM
Ball: CW614N, chrome plated
Ball seat: PTFE
T-piece for drain valve fixation: DZR CW602N
Lever: Polyamide

Measuring test point:
Body: AMETAL®
Stop ring: AMETAL®
Rubber sealing: EPDM
T-piece for measuring test point fixation: DZR CW602N

Connections:
Nuts: CW617N
O-rings: EPDM
Nipples: CW617N
Eccentrics: CW617N
Conical reduction: CW617N

Marking:
TA-Modulator: TA, IMI, PN 16, DN and flow direction arrow.
Grey handwheel and black identification ring on measuring point: TA-Modulator and DN.
TA-COMPACT-P: TA, IMI, PN 16, DN and flow direction arrow.
Grey handwheel: TA-COMPACT-P and DN.
TA-BAV: IMI, PN, DN, material.
Strainer ball valve: IMI, PN, DN.
H-body: IMI

Connections:
Connection system side Eurocone male thread G3/4 (ISO 228).
Connection load side flat male thread G3/4 (ISO 228).
Threads according to ISO 228.

Connection to actuator:
M30x1.5

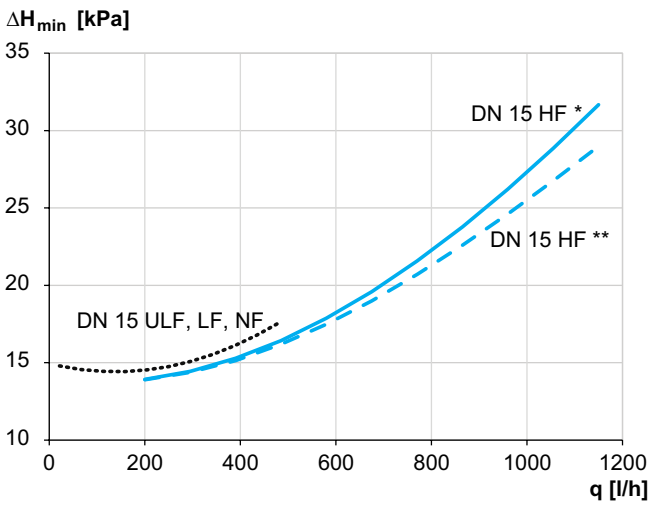
Actuators:
TA-Slider 160 (for modulating control)
EMO TM (for modulating control)
EMO T (for on/off control)
For more details, see separate technical leaflets.

Sizing

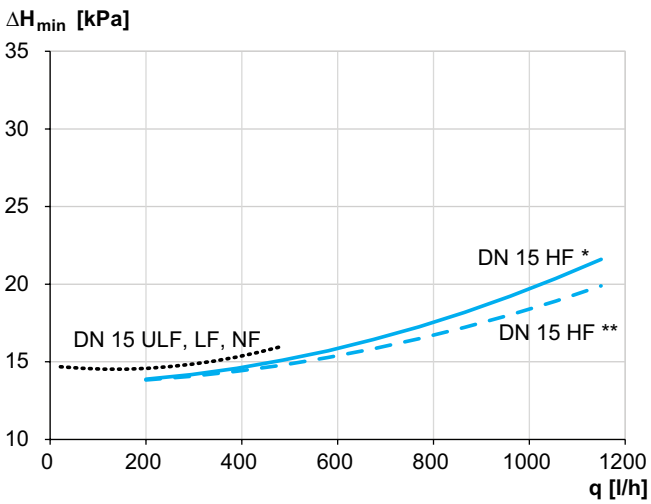
The diagram shows the lowest pressure drop required for the TA-Mini-Fast-Fit to be within its working range at different flows.

1. Choose the smallest size that can obtain the design flow within minimum needed avalible pressure according to sizing diagram above.
2. Check that the available pressure is maximum 400 kPa.

Two line installation



One line installation



*) With strainer
**) Without strainer

q_{max} values

Modulating version (EQM characteristic)

	Position									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
DN 15 NF	92	114	140	170	210	265	325	390	445	480
DN 15 HF	200	260	360	460	565	670	770	850	920	975

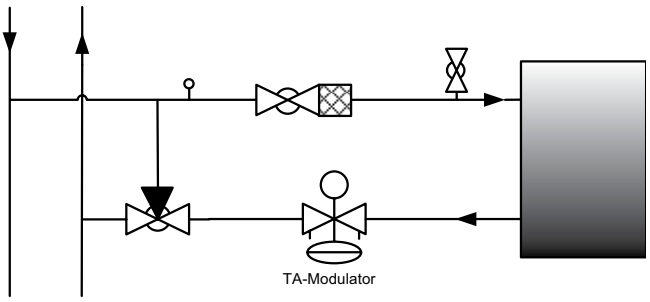
On/off version (linear characteristic)

	Position									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
DN 15 ULF	21,5	39,5	54,0	68,5	80,0	91,0	99,0	107	113	120
DN 15 LF	44,0	71,0	97,0	123	148	170	190	210	227	245
DN 15 NF	88,0	150	200	248	295	340	380	420	450	470
DN 15 HF	210	335	460	575	680	780	890	990	1080	1150

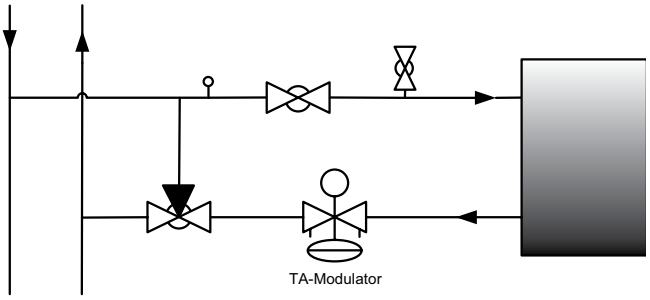
ULF = Ultra low flow
LF = Low flow
NF = Normal flow
HF = High flow
q_{max} = l/h at each setting and fully open valve plug.

Application examples

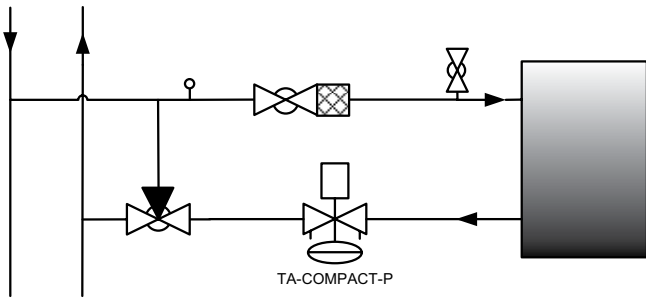
Modulating pressure independent balancing and control
With strainer



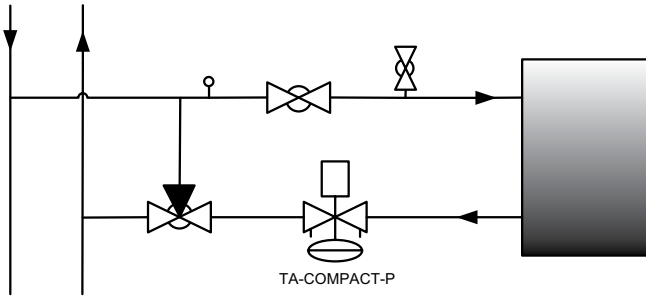
Without strainer



On/off pressure independent balancing and control
With strainer

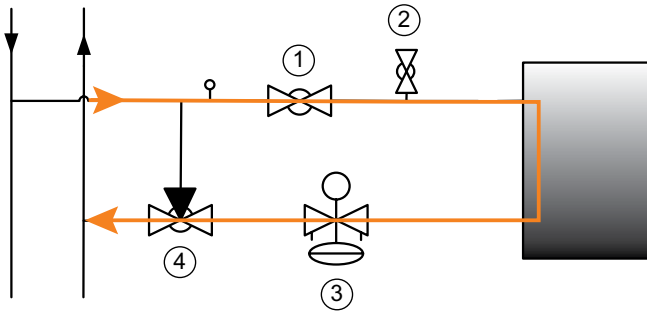


Without strainer



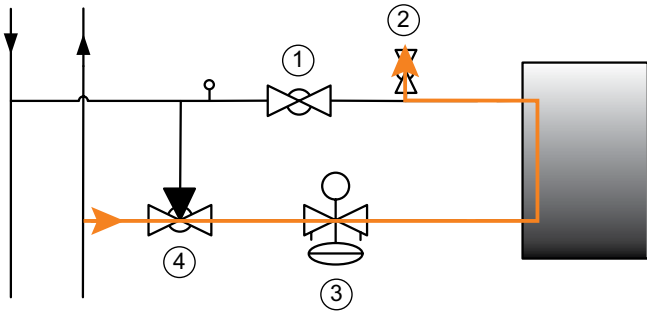
Operating function

Normal operation



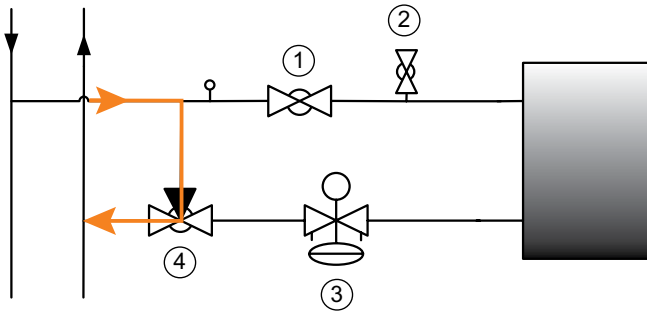
1. Open
2. Closed
3. Open
4. Open

Back flushing



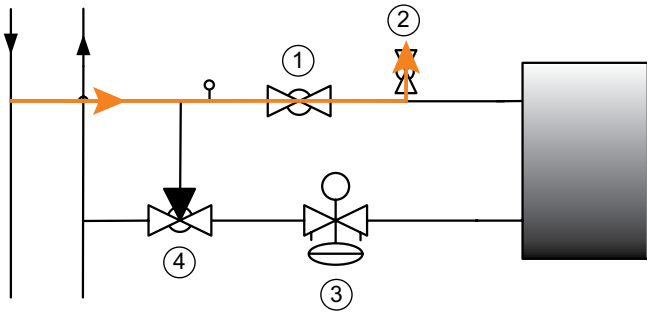
1. Closed
2. Open
3. Open
4. Open

Flushing the distribution system



1. Closed
2. Closed
3. Open
4. Closed

Forward flushing



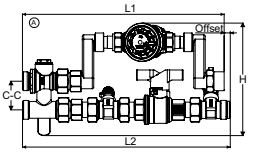
1. Open
2. Open
3. Closed
4. Open

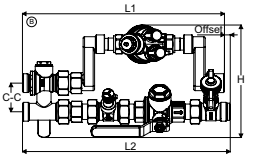
TA-Modulator/TA-COMPACT-P
See separate technical leaflets.

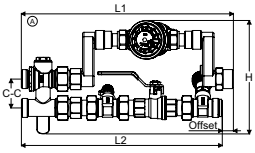
Ball valves
Ball should be exercised in accordance with BSRIA guide.

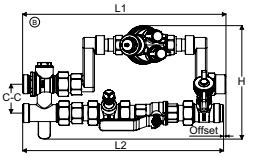
Strainer ball valve
To remove and clean the strainer;
1. Close the valve
2. Unscrew the lid
3. Remove the locking ring
4. Take the strainer out and clean (or change)
6. Insert the strainer
7. Remount the locking ring
8. Remount the lid
9. Reopen the valve

Articles – Two lines installation









Modulating pressure independent balancing and control version

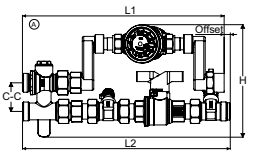
Connection system side Eurocone male thread G3/4. Connection load side Flat male thread G3/4.

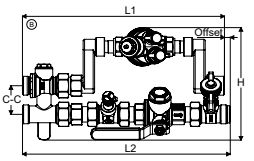
With strainer

DN	L1	L2	Offset (±2.5)	H*	T*	C-C	q_{max} [l/h]	Kg	EAN	Article No
A. Left Hand (LH) Side										
15 NF	282	289	7	157	110	40	480	2.7	5902276893490	322050-40404
15 HF	293	289	4	157	120	40	975	2.9	5902276893575	322050-40504
B. Right Hand (RH) Side										
15 NF	282	289	7	157	117	40	480	2.7	5902276893513	322050-40406
15 HF	293	289	4	157	126	40	975	2.9	5902276893599	322050-40506

Without strainer

DN	L1	L2	Offset (±2.5)	H*	T*	C-C	q_{max} [l/h]	Kg	EAN	Article No
A. Left Hand (LH) Side										
15 NF	282	277	5	157	110	40	480	2.4	5902276893506	322050-40405
15 HF	293	277	16	157	120	40	975	2.7	5902276893582	322050-40505
B. Right Hand (RH) Side										
15 NF	282	277	5	157	117	40	480	2.4	5902276893520	322050-40407
15 HF	293	277	16	157	126	40	975	2.7	5902276893605	322050-40507



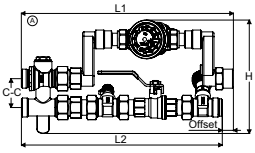


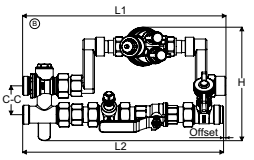
On/Off pressure independent balancing and control version

Connection system side Eurocone male thread G3/4. Connection load side Flat male thread G3/4.

With strainer

DN	L1	L2	Offset (±2.5)	H*	T*	C-C	q_{max} [l/h]	Kg	EAN	Article No
A. Left Hand (LH) Side										
15 ULF	294	289	5	157	110	40	120	2.7	5902276893759	322050-40300
15 LF	282	289	7	157	110	40	245	2.7	5902276893698	322050-40412
15 NF	282	289	7	157	110	40	470	2.7	5902276893452	322050-40400
15 HF	293	289	4	157	120	40	1150	2.9	5902276893537	322050-40500
B. Right Hand (RH) Side										
15 ULF	294	289	5	157	117	40	120	2.7	5902276893773	322050-40302
15 LF	282	289	7	157	117	40	245	2.7	5902276893711	322050-40414
15 NF	282	289	7	157	117	40	470	2.7	5902276893476	322050-40402
15 HF	293	289	4	157	126	40	1150	2.9	5902276893551	322050-40502





Without strainer

DN	L1	L2	Offset (±2.5)	H*	T*	C-C	q_{max} [l/h]	Kg	EAN	Article No
A. Left Hand (LH) Side										
15 ULF	294	277	17	157	110	40	120	2.4	5902276893766	322050-40301
15 LF	282	277	5	157	110	40	245	2.4	5902276893704	322050-40413
15 NF	282	277	5	157	110	40	470	2.4	5902276893469	322050-40401
15 HF	293	277	16	157	120	40	1150	2.7	5902276893544	322050-40501
B. Right Hand (RH) Side										
15 ULF	294	277	17	157	117	40	120	2.4	5902276893780	322050-40303
15 LF	282	277	5	157	117	40	245	2.4	5902276893728	322050-40415
15 NF	282	277	5	157	117	40	470	2.4	5902276893483	322050-40403
15 HF	293	274	16	157	126	40	1150	2.7	5902276893568	322050-40503

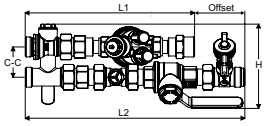
T = Depth of the device
*) Without actuator

NOTE: 15 mm space above the actuator is needed when mounting/dismouting the actuator.

Articles – One line installation

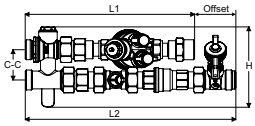
Modulating pressure independent balancing and control version

Connection system side Eurocone male thread G3/4. Connection load side Flat male thread G3/4.



With strainer

DN	L1	L2	Offset (±2.5)	H*	T*	C-C	q_{max} [l/h]	Kg	EAN	Article No
15 NF	211	289	78	111	110	40	480	2.4	5902276893636	322050-40410
15 HF	226	289	63	113	120	40	975	2.6	5902276893674	322050-40510

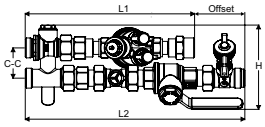


Without strainer

DN	L1	L2	Offset (±2.5)	H*	T*	C-C	q_{max} [l/h]	Kg	EAN	Article No
15 NF	211	277	78	106	110	40	480	2.2	5902276893643	322050-40411
15 HF	226	277	51	108	120	40	975	2.4	5902276893681	322050-40511

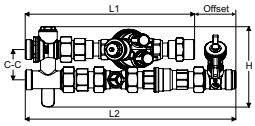
On/Off pressure independent balancing and control version

Connection system side Eurocone male thread G3/4. Connection load side Flat male thread G3/4.



With strainer

DN	L1	L2	Offset (±2.5)	H*	T*	C-C	q_{max} [l/h]	Kg	EAN	Article No
15 ULF	224	289	65	111	110	40	120	2.4	5902276893797	322050-40304
15 LF	211	289	78	111	110	40	245	2.4	5902276893735	322050-40416
15 NF	211	289	78	111	110	40	470	2.4	5902276893612	322050-40408
15 HF	226	289	63	113	120	40	1150	2.6	5902276893650	322050-40508



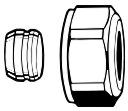
Without strainer

DN	L1	L2	Offset (±2.5)	H*	T*	C-C	q_{max} [l/h]	Kg	EAN	Article No
15 ULF	224	277	53	106	110	40	120	2.2	5902276893803	322050-40305
15 LF	211	277	66	106	110	40	245	2.2	5902276893742	322050-40417
15 NF	211	277	66	106	110	40	470	2.2	5902276893629	322050-40409
15 HF	226	277	51	108	120	40	1150	2.4	5902276893667	322050-40509

T = Depth of the device
*) Without actuator

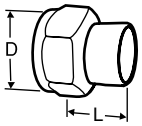
NOTE: 15 mm space above the actuator is needed when mounting/dismouting the actuator.

Connections



Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2.
Connection male thread G3/4 according to DIN EN 16313 (Eurocone).
Metal-to-metal joint.
Brass nickel-plated.
With a pipe wall thickness of 0.8-1 mm insert supporting sleeves. Heed pipe manufacturer's technical advice.

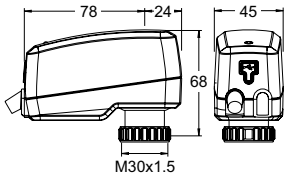
Ø Pipe	EAN	Article No
12	4024052214211	3831-12.351
14	4024052214310	3831-14.351
15	4024052214617	3831-15.351
16	4024052214914	3831-16.351
18	4024052215218	3831-18.351



Soldering connection
Swivelling nut
Brass/gunmetal CC491K (EN 1982)

D	Pipe Ø	L*	EAN	Article No
G3/4	15	13	7318792749308	52 009-515
G3/4	16	13	7318792749407	52 009-516

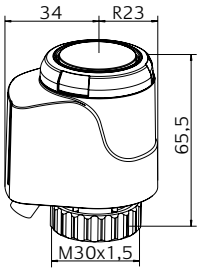
Actuators



TA-Slider 160
For modulating control

24 VAC/VDC

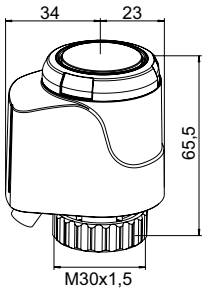
Cable length [m]	Input signal	EAN	Article No
1	0(2)-10 VDC	5901688828397	322224-10111
2	0(2)-10 VDC	5901688828403	322224-10112
5	0(2)-10 VDC	5901688828410	322224-10113
With halogen free cable			
1	0(2)-10 VDC	5901688828427	322224-10114
2	0(2)-10 VDC	5901688828434	322224-10115
5	0(2)-10 VDC	5902276883323	322224-10116



EMO TM
For modulating control

24 VAC

Cable length [m]	Input signal	EAN	Article No
EMO TM, NC (normally closed)			
0,8	0(2)-10 VDC	4024052837618	1868-00.500
2	0(2)-10 VDC	4024052837717	1868-01.500
5	0(2)-10 VDC	4024052837816	1868-02.500
EMO TM, NC (normally closed) - With halogen free cable			
0,8	0(2)-10 VDC	5902276895395	322041-50004
2	0(2)-10 VDC	5902276895401	322041-50005
5	0(2)-10 VDC	5902276895418	322041-50006



EMO T

For on/off control

24 VAC/VDC

Cable length [m]	EAN	Article No
EMO T, NO (Normally open)		
0,8	4024052836413	1847-00.500
2	4024052836710	1847-01.500
5	4024052837014	1847-02.500
EMO T, NO (Normally open) - With halogen free cable		
0,8	5902276895364	322041-40061
2	5902276895371	322041-40062
5	5902276895388	322041-40063
EMO T, NC (Normally closed)		
0,8	4024052835218	1843-00.500
2	4024052835515	1843-01.500
5	4024052835812	1843-02.500
EMO T, NC (Normally closed) - With halogen free cable		
0,8	5902276895333	322041-40058
2	5902276895340	322041-40059
5	5902276895357	322041-40060

230 VAC

Cable length [m]	EAN	Article No
EMO T, NO (Normally open)		
0,8	4024052836611	1837-00.500
2	4024052836918	1837-01.500
5	4024052837212	1837-02.500
EMO T, NO (Normally open) - With halogen free cable		
0,8	5902276895302	322041-40055
2	5902276895319	322041-40056
5	5902276895326	322041-40057
EMO T, NC (Normally closed)		
0,8	4024052835416	1833-00.500
2	4024052835713	1833-01.500
5	4024052836017	1833-02.500
EMO T, NC (Normally closed) - With halogen free cable		
0,8	5902276895272	322041-40052
2	5902276895289	322041-40053
5	5902276895296	322041-40054

NOTE: 15 mm space above the actuator is needed when mounting/dismouting the actuator.

For more detailed information on actuators, see separate technical leaflets.

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