Climate
Control

IMI TA

TA-Sixline

Standard control valves

6-way valve for change-over systems

Breakthrough
engineering for
a better world

TA-Sixline

TA-Sixline is a compact and efficient linear 6-way valve designed for 4-pipe systems where both heating and cooling are required through a single terminal unit. Its linear design provides precise control and stable regulation across all positions. It is designed to be used in combination with the TA-Slider 200, ensuring seamless integration and easy commissioning.

Key features

Easy commissioning and balancing
Simple Kvs setup via TA-Slider, without need of PLC or selection of specific Kv inserts.

Wide flow range
Wide Kv range per variant. Reduces complexity and installation errors on the field.

Flexibility
Ports A and B have the same characteristic and Kvs, which allows flexibility and eliminate mixing of heating and cooling errors during installation.

Ease of installation
Compact design with 360° actuator orientation. M8 connector for ceiling fixation.

Technical description

Application:
Heating and cooling systems.
(Change-over system)

Functions:
Control
Pre-setting (max Kv heating and cooling)
Pressure compensation

Dimensions:
DN 15

Kv range:
DN 15:
Kv_{tot}: 0.76
$Kv_{control}$: 0.08 - 0.84

DN 15 HF:
Kv_{tot}: 1.11
$Kv_{control}$: 0.14 - 1.41

HF = High flow
Kv_{tot} = Total Kv through the complete valve
$Kv_{control}$ = Kv through the control part

Pressure class:
PN 16

Max. differential pressure (ΔpV):
150 kPa over control part

Max. close off pressure:
400 kPa

Temperature:
Max. working temperature: 90°C
Min. working temperature: 0°C

Material:
Valve body and pistons: AMETAL®
Middle spindle: Brass CW724R (CuZn21Si3P)
Top spindle: Stainless Steel
Internal plastic parts: PPS
O-rings: EPDM

AMETAL® is the dezincification resistant alloy of IMI.

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

Leakage rate:
Tight sealing
(Class VI according to EN 60534-4).

Characteristics:
Linear

Marking:
IMI TA, PN, DN, A/B flow direction

Connection:
External thread according to ISO 228.
Internal thread according to ISO 228.

Connection to actuator:
M30x1.5, push/pull

Stroke:
Total stroke: 11 mm
A-side: 4.25 mm
No flow zone: 2.5 mm
B-side: 4.25 mm

Actuators:
TA-Slider 200

Technical description - TA-Slider 200 I/O

Functions:
Proportional control
Manual override (TA-Dongle)
Stroke detection
Mode, status and position indication
Stroke limitation setting
Minimum stroke setting
Valve blockage protection
Valve clogging detection
Error safe position
Diagnostic/Logging
Delayed start-up
1 binary input, max. 100 Ω, cable max. 10 m or shielded.
Output signal

Supply voltage:
24 VAC/VDC ±15%.
Frequency 50/60 Hz ±3 Hz.

Power consumption:
Operation: < 1.3 VA (VAC); < 0.7 W (VDC)
Standby: < 0.5 VA (VAC); < 0.25 W (VDC)

Input signal:
0(2)-10 VDC, R_i 47 kΩ.
Adjustable hysteresis sensitivity
0.1-0.5 VDC.
0.33 Hz low pass filter.
Proportional:
0-10, 10-0, 2-10 or 10-2 VDC.
Proportional split-range:
0-5, 5-0, 5-10 or 10-5 VDC.
0-4.5, 4.5-0, 5.5-10 or 10-5.5 VDC.
2-6, 6-2, 6-10 or 10-6 VDC.
Proportional dual-range (for change-over):
0-3.3 / 6.7-10 VDC,
2-4.7 / 7.3-10 VDC,
0-4.5 / 5.5-10 VDC or
2-5.5 / 6.5-10 VDC.
Default setting: Proportional 0-10 VDC.

Output signal:
0(2)-10 VDC, max. 8 mA, min. 1.25 kΩ.
Ranges: See “Input signal”.
Default setting: Proportional 0-10 VDC.

Characteristics:
Linear, EQM 0.25 and inverted EQM 0.25.
Default setting: Linear.

Control speed:
10 s/mm.

Adjusting force:
Push/Pull 200 N

Temperature:
Media temperature: max. 120°C
Operating environment: 0°C – +50°C (5-95%RH, non-condensing)
Storage environment: -20°C – +70°C (5-95%RH, non-condensing)

Ingress protection:
IP54
all directions
(according to EN 60529)

Protection class:
(according to EN 61140)
III (SELV)

Cable:
1, 3 or 5 m. With wire end sleeves.
Halogen free as option, fire class $B2_{ca}$ – s1a, d1, a1 according to EN 50575.
Type LiYY, 5x0.25 mm^2.

Stroke:
16,2 mm
Automatic detection of the valve lift (stroke detection).

Noise level:
Max. 30 dBA

Weight:
0.20 kg, 1 m cable.
0.25 kg, 3 m cable.
0.38 kg, 5 m cable.

Connection to valve:
Swivelling nut M30x1,5.

Material:
Cover: PC/ABS GF8
Housing: PA GF40.
Swivelling nut: Nickel-plated brass.

Colour:
White RAL 9016, grey RAL 7047.

Marking:
Label: IMI TA, CE, product name, article No. and technical specification.

Certification CE:
LV-D. 2014/35/EU: EN 60730-1, -2-14.
EMC-D. 2014/30/EU: EN 60730-1, -2-14.
RoHS-D. 2011/65/EU: EN 63000.

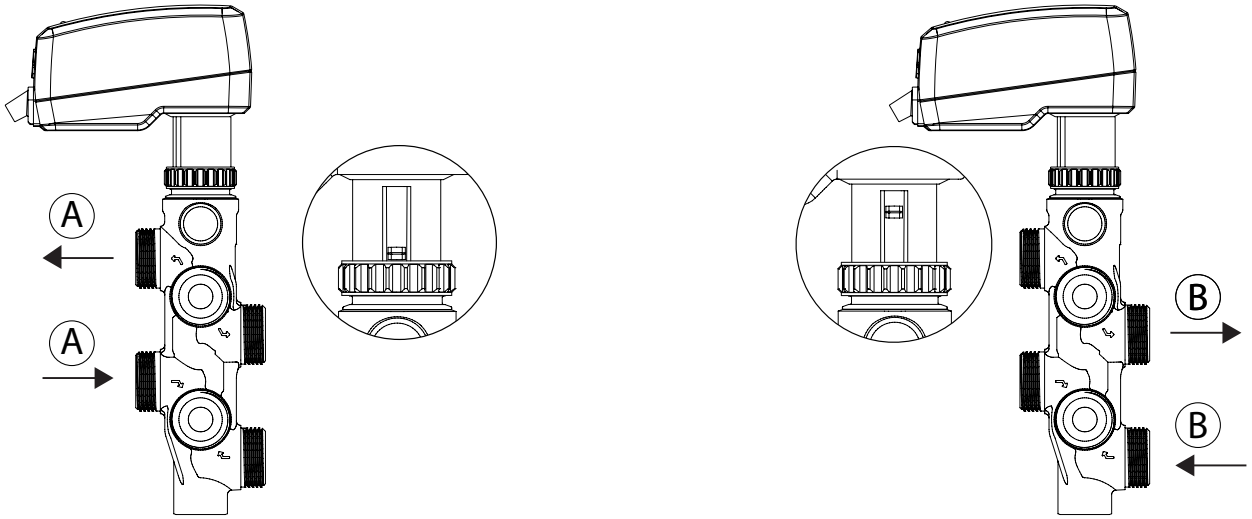
Product standard:
EN 60730

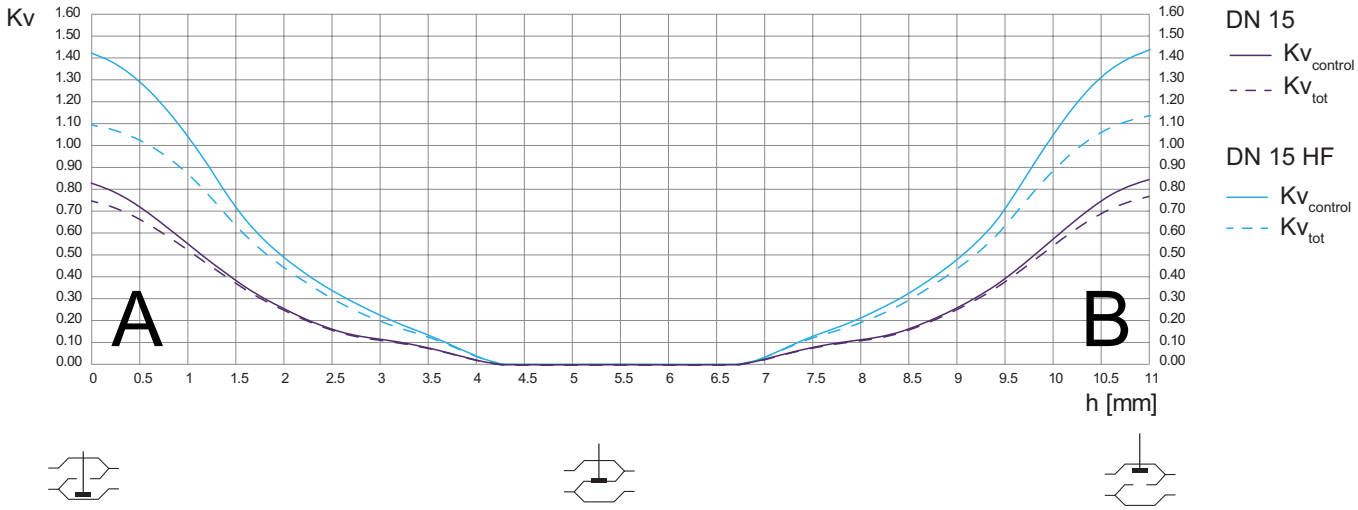
Function

Change-over control

The change-over can be implemented by:
- binary input that switches directly between heating and cooling,
- 0–10 V dual-range signal configured in the HyTune app to define the control ranges for each mode.

In the body of the valve it is marked the direction of the flow and which port corresponds. Port assignment is configurable in HyTune. Ports A and B can each be set to heating or cooling. Both ports have the same nominal Kvs, ensuring consistent flow performance regardless of assignment. The flow direction (inlet/outlet) can also be reversed if needed; note that reversal introduces a slight deviation from the specified Kvs. This flexibility makes the TA-Sixline suitable for a wide range of terminal units and control systems.





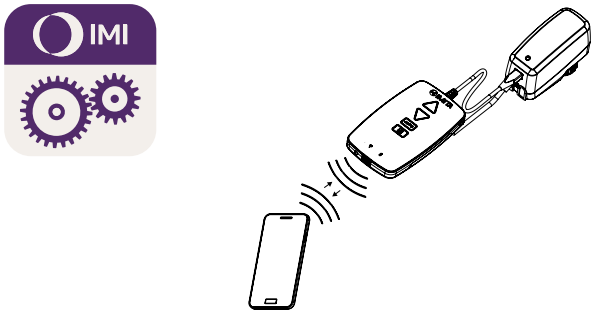
Hydronic balancing

The TA-Sixline, when used with the TA-Slider 200, allows the user to limit the Kvs values for the heating and cooling ports independently. This is configured via the HyTune app, where maximum stroke positions for each port can be defined.

Expansion safety mechanism

In combined heating/cooling applications, the fluid inside the valve may remain enclosed when both circuits are closed (no heating or cooling demand). Ambient temperature changes can then cause the fluid temperature – and therefore pressure – to rise or fall inside the valve body. To manage this, the TA-Sixline includes an integrated pressure compensation function that relieves excess pressure build-up. This ensures mechanical safety, prevents stress on the valve components, and avoids unintended flow or noise caused by thermal expansion of the trapped fluid.

Setting
The actuator can be set by the HyTune app (iOS version 16 or later, Android version 9 or later) + the TA-Dongle device, with or without the actuator power supplied.
The setting configuration can be stored in the TA-Dongle for setting of one or several actuators. Connect the TA-Dongle to the actuator and press the configuration button.
HyTune can be downloaded from the App Store or Google Play.



Manual override
By using the TA-Dongle device. No power supply needed.

Calibration/Stroke detection
According to selected settings in the table.

Type of calibration	At power on	After manual override
Both end positions (full)	√ *	√
Fully extended position (fast)	√	√ *
None	√	

*) Default
Note: A calibration refresh can be automatically repeated monthly or weekly.
Default setting: Off.

Stroke limitation setting
A maximum stroke smaller than or equal to the detected valve lift can be set to the actuator.
For some IMI TA valves it can also be set to a Kv_{max}/q_{max}.
Default setting: No stroke limitation (100%).

Minimum stroke setting
The actuator can be set with a minimum stroke below which it will not go (except for calibration).
For some IMI TA valves, it can also be set to a q_{min}.
Default setting: No minimum stroke (0%).

Valve blockage protection
The actuator will perform a quarter of a full stroke and then back to desired value if no actuation takes place for one week or one month.
Default setting: Off.

Valve clogging detection
If actuation stops before the desired value is reached, the actuator moves back ready to make a new attempt. The actuator will move to the configured error safe position after three attempts.
Default setting: On.

Error safe position
Fully extended or retracted position when following errors occur; low power, line break, valve clogging or stroke detection failure.
Default setting: Fully extended position.

Diagnostics/logging
The last 10 errors (low power, line break, valve clogging, stroke detection failure) with time stamps can be read using the HyTune app + TA-Dongle device. Logged errors will be cleared if the power is disconnected.

Delayed start-up
The actuator can be specified a delay (0 to 1275 sec.) before starting up after a power supply cut. This is useful when used with a control system that has itself a long start-up time.
Default setting: 0 seconds.

Binary input
If the binary input circuit is open, the actuator will go to a set stroke, switch to a second stroke limitation setting or drive to its full stroke regardless of any limitations for flushing purpose. See also Change-over system detection.
Default setting: Off

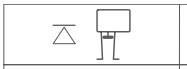
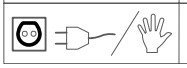
Change-over system detection
Switching between two different stroke limitation settings by toggling the binary input or using the dual-range input signal.

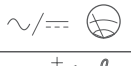
Noise

In order to avoid noise in the installation, the valve must be correctly installed and the water de-aerated.

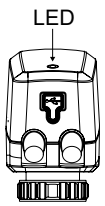
LED indication

TA-Slider 200 I/O

		Status	Red (heating) / Blue (cooling)
		Fully retracted (actuator stem)	Long pulse - Short pulse
		Fully extended (actuator stem)	Short pulse - Long pulse
		Intermediate position	Long pulses
		Moving	Short pulses
		Calibrating	2 short pulses
		Manual mode or no power supply	Off

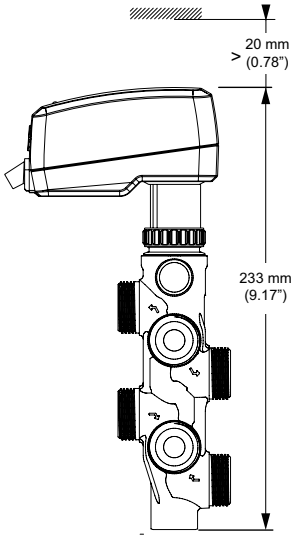
		Error code	Violet
		Power supply too low	1 pulse
		Line broken (2-10 V)	2 pulses
		Valve clogging or foreign object	3 pulses
		Stroke detection failure	4 pulses

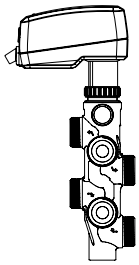
If an error is detected, violet pulses are displayed as the red or blue status lights flash alternately.
More detailed information, please see the HyTune app + TA-Dongle.

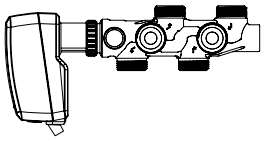


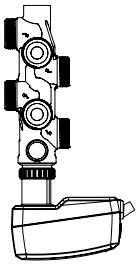
Installation

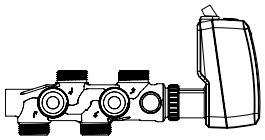
Installation of actuator
Note: Free space is required above the actuator for easy mounting/dismounting.




IP 54

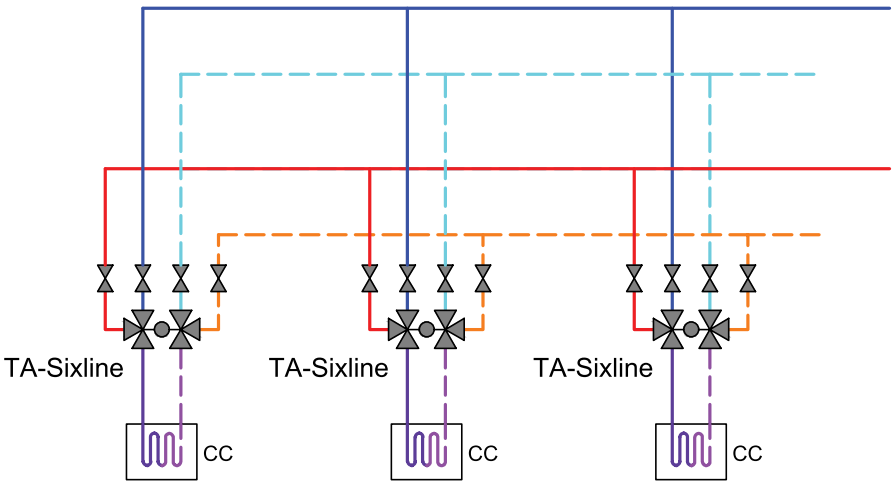

IP 54


IP 54

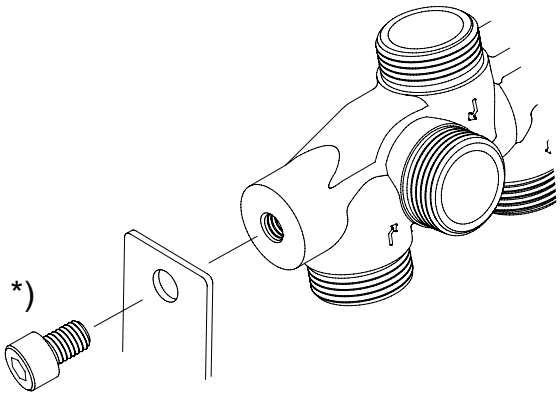

IP 54

Pressurisation
NOTE! When designing the pressurisation system: please consider that change-over systems have hydraulic interaction between the cooling and the heating system via the terminals, which cause a fluid mass transfer from the cooling to the heating system. For further information please contact IMI.

Application example
The TA-Sixline can be used to control a zone served either by multiple radiant ceiling panels or by a single panel.
When a zone includes several panels, a small manifold is installed on the emitter side of the TA-Sixline to distribute the flow to each panel.
For smaller zones with only one radiant ceiling panel, the panel can be connected directly to the emitter side of the TA-Sixline without a manifold.
The TA-Sixline is available with either internal or external threads on the emitter side to simplify system installation and minimize the number of required fittings, thereby reducing the risk of leakage during installation.



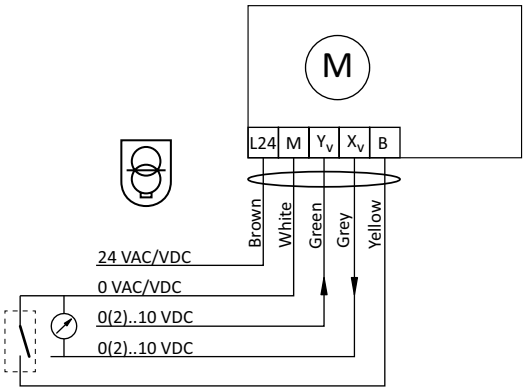
M8 fixation
When flexible hoses are used to connect both the heating and cooling pipes as well as the radiant ceiling panels, a fixing mechanism is required.
The TA-Sixline can be mounted on a modular rail, which is secured to the ceiling, using an M8 screw.



*) M8 screw is not included in the delivery

Connection diagram

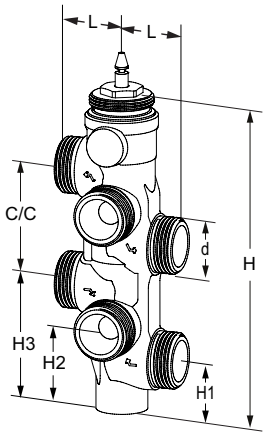
TA-Slider 200 I/O



Terminal	Description
L24	Power supply 24 VAC/VDC
M	Neutral for power supply 24 VAC/VDC and signals.
Y_V	Input signal for proportional control 0(2)-10 VDC, 47 kΩ
X_V	Output signal 0(2)-10 VDC, max. 8 mA or min. load resistance 1.25 kΩ
B	Connection for potential free contact (e.g. open window detection), max. 100 Ω, max. 10 m cable or shielded

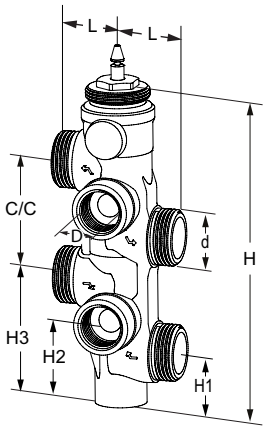
 24 VAC/VDC operating only with safety transformer according to EN 61558-2-6.

Articles



External threads
Thread according to ISO 228.

DN	d	L	H	H1	H2	H3	C/C	Kvs_{tot}	Kg	EAN	Article No
15	G3/4	29	152	25,5	42	59,5	55	0,76	0,85	7318794179196	52 120-015
15 HF	G3/4	29	152	25,5	42	59,5	55	1,11	0,85	7318794179202	52 120-115



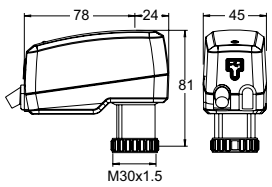
Internal thread x External thread
Threads according to ISO 228 x Threads according to ISO 228.

DN	D	d	L	H	H1	H2	H3	C/C	Kvs_{tot}	Kg	EAN	Article No
15	G1/2	G3/4	29	152	25,5	42	59,5	55	0,76	0,85	7318794197251	52 120-215
15 HF	G1/2	G3/4	29	152	25,5	42	59,5	55	1,11	0,85	7318794197268	52 120-315

HF = High flow

Valve and actuator to be ordered and delivered separately.

TA-Sixline is designed to work only with TA-Slider 200. IMI cannot guarantee performance when used with other actuators.

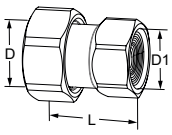


TA-Slider 200 I/O
Input signal: 0(2)-10 VDC

With binary input, VDC output signal

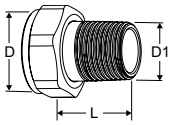
Cable length [m]	Supply voltage	EAN	Article No
1	24 VAC/VDC	5902276826610	322229-10411
3	24 VAC/VDC	5902276826627	322229-10412
5	24 VAC/VDC	5902276826634	322229-10413
With halogen free cable			
1	24 VAC/VDC	5902276826641	322229-10414
3	24 VAC/VDC	5902276826658	322229-10415
5	24 VAC/VDC	5902276826665	322229-10416

Connections



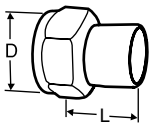
With internal thread
Threads according to ISO 228. Thread length according to ISO 7-1.
Swivelling nut. Brass.

For DN	D	D1	L*	EAN	Article No
15	G3/4	G1/2	31,5	5902276820038	52 009-815
15	G3/4	G3/4	36,5	5902276820045	52 009-915



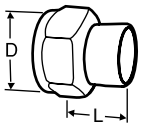
With external thread
Threads according to ISO 7-1.
Swivelling nut. Brass.

For DN	D	D1	L*	EAN	Article No
15	G3/4	R1/2	29	4024052516612	0601-02.350



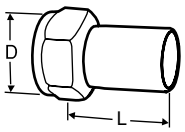
Welding connection
Swivelling nut. Brass/Steel 1.0045 (EN 10025-2)

For DN	D	Pipe DN	L*	EAN	Article No
15	G3/4	15	36	7318792748509	52 009-015



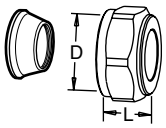
Soldering connection
Swivelling nut. Brass/gunmetal CC491K (EN 1982).

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



Connection with smooth end
For connection with press coupling.
Swivelling nut. Brass/AMETAL®.

For DN	D	Pipe Ø	L*	EAN	Article No
15	G3/4	15	39	7318793810601	52 009-315

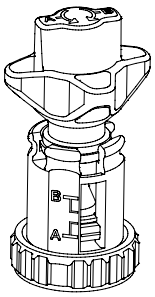


Compression connection
Support bushes shall be used, for more information see catalogue leaflet FPL.
Should not be used with PEX pipes.
Brass/AMETAL®.
Chrome plated

For DN	D	Pipe Ø	L**	EAN	Article No
15	G3/4	22	27	7318793705204	53 319-622

*) Fitting length (from the gasket surface to the end of the connection).
**) Over all length L refers to unassembled coupling.

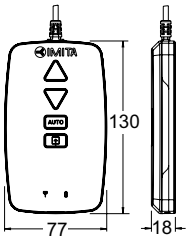
Accessories



Handwheel
For manual operation without actuator.

EAN	Article No
7318794197275	52 120-950

Additional equipment



TA-Dongle
For Bluetooth communication with the HyTune app, transfer configuration settings and manual override.
(TA-Slider 200 I/O)

EAN	Article No
5901688828632	322228-00001

TA-Sixline EN ed.1 03.2026