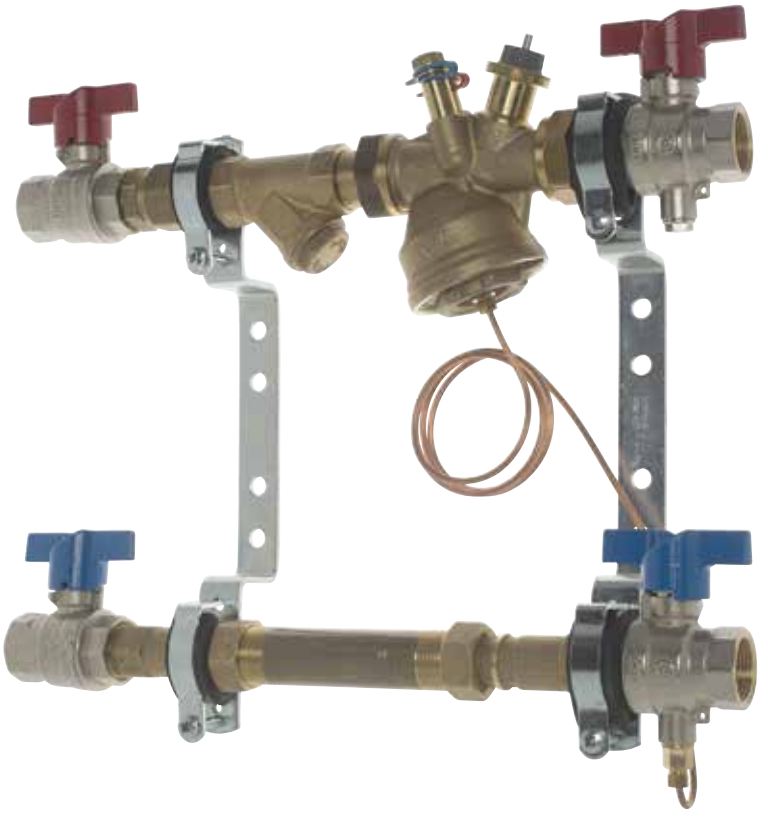
IMI TA

TA-CIC One



Prefab units

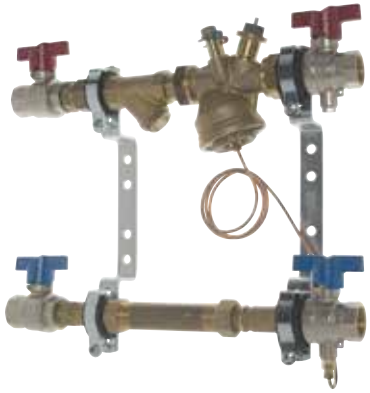
Fabricated solutions for apartments

IMI Hydronic Engineering

Breakthrough Engineering

TA-CIC One

Compact solution for zone control of small circuits, enables setting of max. flow and prevents radiator and control valves from too high differential pressure. Flexible solution for easy installation thanks to prefabricated unit prepared for energy meter.



Key features

- **7 in 1 concept reduces costs**
  Installing one unit with 7 functions reduces investment costs and installation time.
- **Highly reliable**
  Pressure tested pre-assembled unit reduces the risk of leakage.
- **Saves energy and money**
  Balanced and pressure independent circuits protects systems against over flows and too high energy consumption.
- **Zone control**
  Time controlled circuits can save up to 20% energy.
- **Noise protection**
  Differential pressure control protects radiator and control valves from too high differential pressure.

Technical description

Application:
Heating and cooling systems.

Functions:
Pre-setting (max. flow)
Differential pressure control
Control
Measuring (ΔH, T, q)
Shut-off
Strainer
Prepared for energy meter

Dimensions:
DN 20

Pressure class:
PN 10

Differential pressure (ΔH):
Max. differential pressure (ΔH_{max}):
400 kPa = 4 bar
Min. differential pressure (ΔH_{min}):
DN 20 LF: 19 kPa = 0,19 bar
DN 20 NF: 27 kPa = 0,27 bar
(Valid for the most demanding settings. Other settings will require a lower ΔH. Check with graphs under “Sizing”.)
ΔH_{max} = The maximum allowed pressure drop over the circuit, to fulfill all stated performances.
ΔH_{min} = The minimum needed pressure drop over the circuit, for proper differential pressure control.

Setting range:
Indication of recommended setting range. For more detailed information see “Sizing”.
DN 20 LF: ΔpL 10 kPa, 60-300 l/h
DN 20 NF: ΔpL 10 kPa, 160-840 l/h
(LF = Low flow, NF = Normal flow)

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

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

Material:
Ball valves:
Body: Brass CW617N (EN 12165) CuZn40Pb2
Ball: Brass CW617N (EN 12165) CuZn40Pb2 (chrome plated)
Spindle: Brass CW614N (EN 12164) CuZn39Pb3
Seat/spindle sealing: PTFE
Stuffing box: Brass CW614N (EN 12164) CuZn39Pb3
O-rings: FKM
Lever: Painted aluminum

TA-COMPACT-DP:
Valve body: AMETAL®
Valve insert: AMETAL®
Valve plug: Stainless steel
Spindle: Stainless steel
Spindle seal: EPDM O-ring
Δp insert: AMETAL®, PPS polyphenylsulphide)
Membrane: EPDM and HNBR
Springs: Stainless steel
O-rings: EPDM

Strainer:
Body: Brass CW617N (EN 12165) CuZn40Pb2
Cap: Brass CW617N (EN 12165) CuZn40Pb2
Strainer: Stainless steel
Washer: NBR

Pipe: Brass CW508L

Fittings: Brass CW617L

Support:
Bracket: Steel zinc
Clamp: Steel zinc
Belt: Rubber

AMETAL® is the dezincification resistant alloy of IMI Hydronic Engineering.

Connections:
Female threads according to ISO 228.

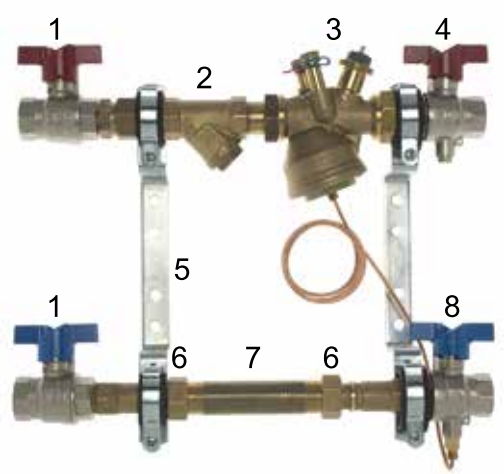
Connection to actuator:
M30x1.5

Actuators:
EMO T, EMO TM or TA-Slider 160.
(See separate technical documentation)

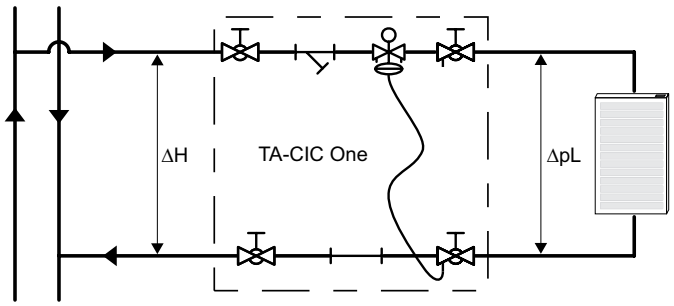
Construction

1. Ball valve
2. Strainer (mesh density 500 Microns)
3. Δp controller TA-COMPACT-DP
4. Ball valve with M10 female connection for temperature control
5. Mounting bracket with rubber
6. Connections for flat faced ends, swivelling nut G3/4
7. Distance piece 110 mm, place for energy meter
8. Ball valve with M10 + transition nipple G1/16 female connection for capillary pipe

For additional information on TA-COMPACT-DP, please see separate technical documentation.



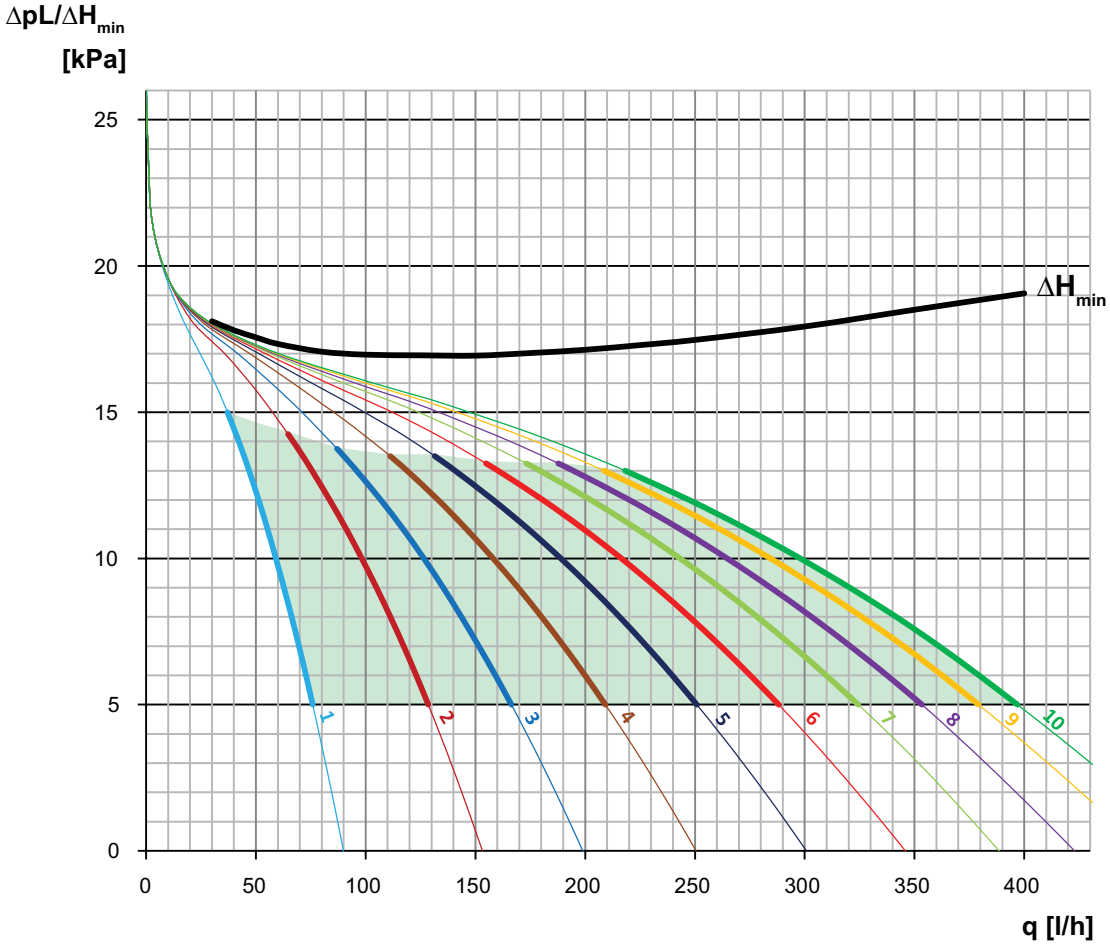
Sizing



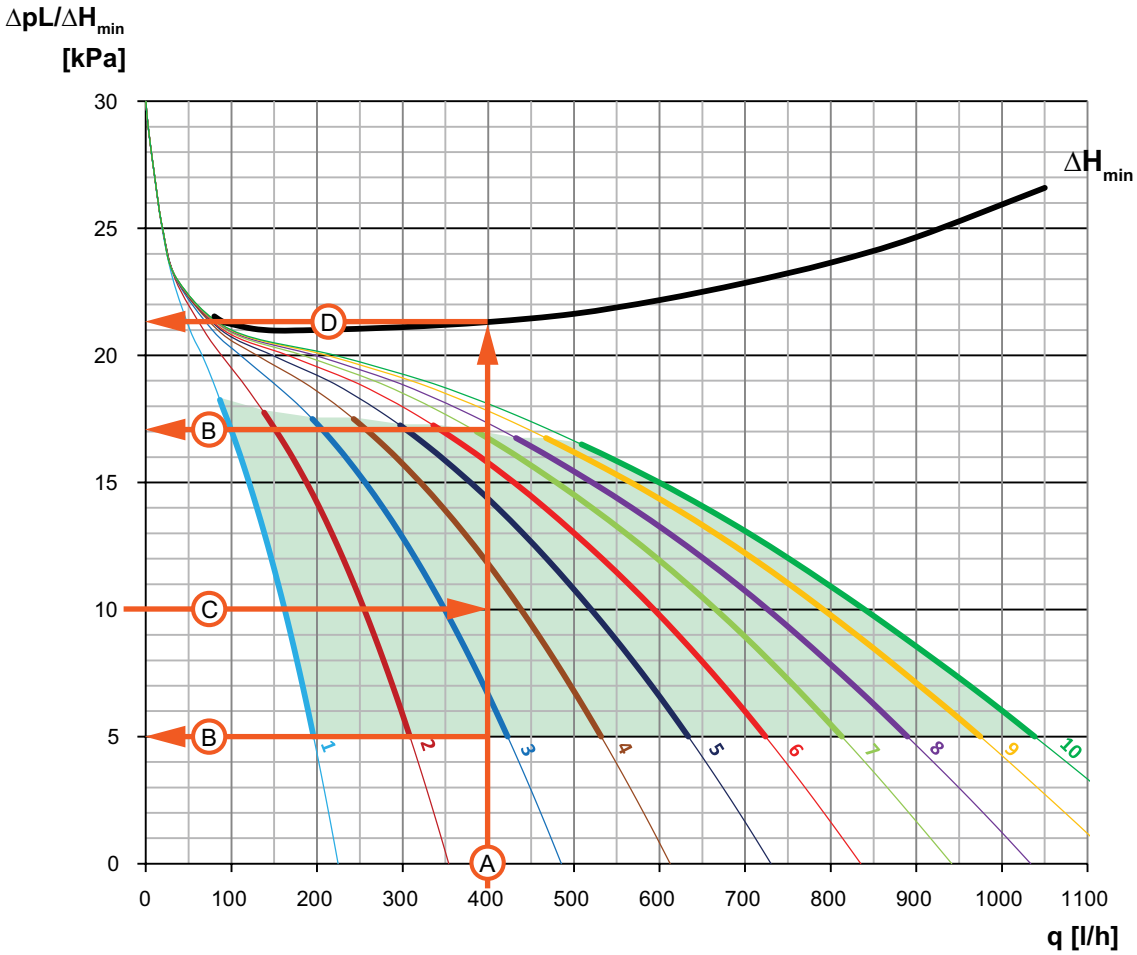
ΔH = Available differential pressure.
ΔpL = The differential pressure over the load.
ΔH_{min} = The minimum needed pressure drop over the circuit, for proper differential pressure control.

Diagrams
The colored curves (1-10) are the nominal ΔpL for different settings (1-10) of TA-COMPACT-DP as a function of flow (q). The black curve is ΔH_{min} as a function of flow (q). The green area is the recommended area of sizing.

DN 20 LF
(low flow)



DN 20 NF
(normal flow)

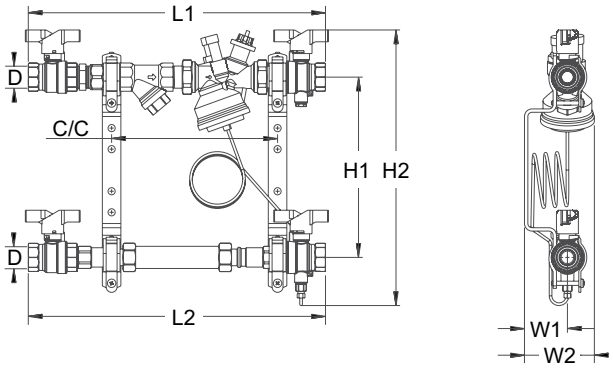


Example - DN 20 NF
Design flow 400 l/h and ΔpL 10 kPa.

A. Draw a straight vertical line from the required flow up to the black curve.
B. This line crosses the green area for recommended setting range of ΔpL, in this case 5-17 kPa.
C. Draw a straight horizontal line from the chosen ΔpL, this line cross the vertical line A in the setting point. If this setting point is in between two setting curves, then estimate the setting, in this case 3,6.
D. Draw a horizontal line from where the vertical line A mate the ΔH_{min} curve to the scale and read the ΔH_{min}, in this case 21,4 kPa.

Articles

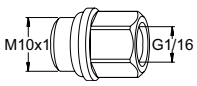
Prefab unit TA-CIC One with TA-COMPACT-DP
Female threads according to ISO 228.



	D	L1	L2	H1	H2	W1	W2	C/C	q_{max} [l/h]	Kg	EAN	Article No
DN 20 LF	G3/4	355 ±2,5	360 ±2,5	216	331	50	78	~189	300	3,6	5902276895111	322050-50400
DN 20 NF	G3/4	350 ±2,5	360 ±2,5	214	331	51	83	~197	840	3,8	5902276895128	322050-50500

(LF = Low flow, NF = Normal flow)

Accessories



Transition nipple
For capillary pipe with G1/16 connection.
Brass CuZn39Pb3-CW614N
(Spare part)

EAN	Article No
8016603311049	110700-01548

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