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## Appendix B

### KHS Equipment Data Sheets

1. 686 01 KHS Quarter Turn Stop Valve
2. 628 0G KHS Temperature Sensor
3. 138 4G Flow Measurement Valve
4. 138 6G Flow Measurement Valve
5. 688 00 Monitored Tundish

# KHS Quater Turn Stop Valve PLUS, 24 V Spring Return Actuator, Figure 686 01



## product features

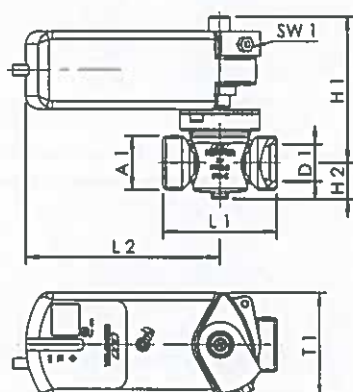
- wetted parts made of stainless steel and gunmetal
- two position spring return actuator with status feedback and electroless reset
- 90° rotatable
- water hammer free operation
- easy maintenance while installed
- maintenance free gear
- for connection to KHS Logic Control Box or BMS
- self-centering shaft adapter with flange for assembly on the valve
- maintenance free spindle sealing
- male union thread
- removable head part TOP ENTRY, with EPDM gasket body and stainless steel closing body
- free from dead spots

## standards and approvals

- valve(s) with DVGW approval
- according to DVGW worksheet W 570
- valve(s) with soundproofing certificate according to DIN EN ISO 3822 Class 1
- DIN EN 13828

## technical data

- pressure rating PN 16
- max. ambient temperature 55 °C
- protection class IP54
- power supply 24 V DC
- position feedback 0...10 Volt
- elapsed time for actuated changeover 90 s
- elapsed time for spring driven changeover 15 s
- power input 3.5 W
- length of connection cable 0.9 m
- wire cross section 4 x 0.75 mm²



part no.	DN	A1	D1 mm	H1 mm	H2 mm	L1 mm	L2 mm	T1 mm	SW1 mm	Wt kg
6860101500	15	G 3/4	18	110	25	68	150.3	81	10	1.99
6860102000	20	G 1	22.5	110	25	73	150.3	81	10	2.05
6860102500	25	G 1 1/4	29	112.5	28	88	150.3	81	10	2.02
6860103200	32	G 1 1/2	35	115.5	31	93	150.3	81	10	2.19

## accessories

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KHS-Timer Set Plus, Flow Restricted, Figure 697	13.38
Insulating Shell for VAV Stop Valve And CONTROL PLUS Measurement Valves, Figure 471 19	15.11
Screw connections	15.4



## product features

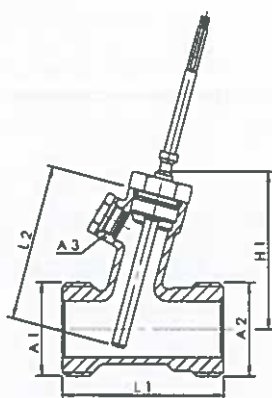
- wetted metal parts made from dezincification-free and corrosion-resistant gunmetal, resistant against aggressive water
- to connect to the KHS System Controls or for connection to the building management system (BMS)
- including 4-wire Pt 1000 temperature sensor
- full bore
- male union thread
- free from dead spots

## standards and approvals

- DIN EN 60751

## technical data

- pressure rating PN 16
- min. operating temperature 0 °C
- max. operating temperature 105 °C
- length of connection cable 1 m
- wire cross section 4 x 0,22 mm<sup>2</sup>
- diameter of the sensor 6 mm



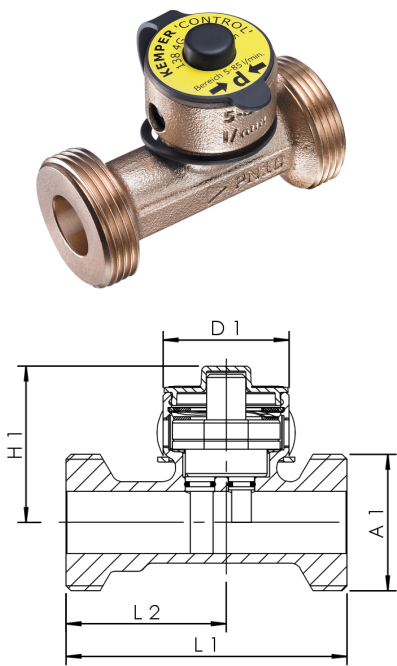
part no.	DN	A1	A2	A3	H1 mm	L1 mm	L2 mm	Wt kg
6280G01500	15	G 3/4	G 3/4	G 1/4	65	65	60	0.38
6280G02000	20	G 1	G 1	G 1/4	68	67	60	0.44
6280G02500	25	G 1 1/4	G 1 1/4	G 1/4	70.5	72	70	0.58
6280G03200	32	G 1 1/2	G 1 1/2	G 1/4	78	77	80	0.64
6280G04000	40	G 1 3/4	G 1 3/4	G 1/4	79	82	80	0.71
6280G05000	50	G 2 3/8	G 2 3/8	G 1/4	88.5	90	80	1.13

## accessories

Screw connections

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Product Features

- frequency output signal
- for the accurate measurement of flow rates and temperatures in drinking water systems
- wetted metal parts made from dezincification-free and corrosion-resistant gunmetal, resistant against aggressive water
- sensor housing for low pressure loss
- up to 50% of measuring range: deviation < 1% of upper measurement range
- from 50% of measuring range: deviation < 2% of measurement
- for connection to the KHS control systems
- male union thread
- free from dead spots
- with vortex flow sensor that includes a 2-wire Pt1000
- 5-pin M12x1 interface
- readout and display of values via additional available KHS handheld measuring device
- optional cable M12x1 required for connection to KHS control systems
- DN 10 is recommended for use with flow limiter 2 l/min

Standards and Approvals

- plastic parts with KTW- and W 270 approval

Technical Data

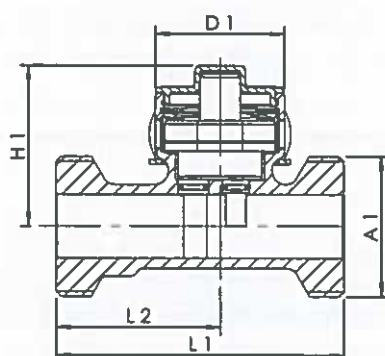
- pressure rating PN 10
- for flow velocities of 0.2 m/s up to 2.5 m/s
- min. operating temperature 0 °C
- max. operating temperature 100 °C
- protection class IP65
- power supply 5 V DC

Part No.	DN	A1	D1 (mm)	H1 (mm)	L1 (mm)	L2 (mm)	pressure loss at 1 m/s (hPa)	pressure loss at 2 m/s (hPa)	measurement range (l/min)	kvs (m³/h)
1384G01000	10	G 3/4	38.5	46	65	35	114	460	0,9-15	1.9
1384G01500	15	G 3/4	38.5	44	65	32	36	142	1,8-32	3.3
1384G02000	20	G 1	38.5	46	75	40	28	109	3,5-50	6.8
1384G02500	25	G 1 1/4	38.5	48	86	49	25	100	5,0-85	11.2
1384G03200	32	G 1 1/2	38.5	50.5	109	70	32	124	9,0-150	16.3
1384G04000	40	G 1 3/4	38.5	57.5	109	66.5	30	121	11-188	26
1384G05000	50	G 2 3/8	38.5	64.5	113	70	31	123	18-316	40.3

Accessories

- CONTROL-PLUS hand-held measuring device for sensors, figure 138 00 002
- sensor measuring module, figure 138 00 011
- M12x1 cable with loose litz wires, figure 138 00 012
- gunmetal solder union connector, figure 476 04
- gunmetal union connector, union nut, FPT, figure 476 06
- gunmetal union connector, union nut, FPT, with drain valve, figure 476 07
- gunmetal union connector, union nut, MPT, figure 476 08
- solder / pressfit union connector, figure 476 14
- pressfit union connector, MAPRESS stainless steel, figure 476 20
- pressfit union connector, MAPRESS stainless steel and copper, figure 476 22
- pressfit union connector, SANPRESS and PROFIPRESS, figure 476 30
- pressfit union connector, SANHA and NiroSan, figure 476 35
- pressfit union connector, MEPLA, figure 476 40
- pressfit union connector, SANPRESS INOX, figure 476 70

# CONTROL PLUS Flow and Temperature Measurement Valve, 4 - 20 mA Signal, Union Thread, Figure 138 6G



## product features

- wetted metal parts made from dezincification-free and corrosion-resistant gunmetal, resistant against aggressive water
- standard industrial signal (4 to 20 mA)
- for the accurate measurement of flow rates and temperatures in drinking water systems
- sensor housing for low pressure loss
- up to 50% of measuring range: Deviation < 1% of upper measurement range
- from 50% of measuring range: Deviation < 2% of measurement
- suitable for drinking water and water-glycol mixtures
- for connection to the building management system (BMS)
- male union thread
- free from dead spots
- with vortex flow sensor that includes a 2-wire Pt 1000
- 5-pin M12x1 interface
- DN 10 is recommended for use with flow restrictor 2 l/min
- incl. M12x1 Cable with Loose Litz Wires

## standards and approvals

- plastic parts with KTW- and W270 certificates

## technical data

- pressure rating PN 10
- for flow velocities of 0.2 m/s up to 2.5 m/s
- min. operating temperature 0 °C
- max. operating temperature 100 °C
- protection class IP65
- power supply 8...33 V DC

part no.	DN	flow rate measurement range l/min	A1	D1 mm	H1 mm	L1 mm	L2 mm	Wt kg	max. volume flow (kvs) m³/h	pressure loss at 1 m/s hPa	pressure loss at 2 m/s hPa
1386G01000	10	0,9-15	G 3/4	38.5	46	65	35	0.38	1.9	114	460
1386G01500	15	1,8-32	G 3/4	38.5	44	65	32	0.37	3.3	36	142
1386G02000	20	3,5-50	G 1	38.5	46	75	40	0.45	6.8	28	109
1386G02500	25	5,0-85	G 1 1/4	38.5	48	86	49	0.59	11.2	25	100
1386G03200	32	9,0-150	G 1 1/2	38.5	50.5	109	70	0.76	16.3	32	124
1386G04000	40	11-188	G 1 3/4	38.5	57.5	109	66.5	0.95	26	30	121
1386G05000	50	18-316	G 2 3/8	38.5	64.5	113	70	1.39	40.3	31	123

## accessories

Insulation Shell for KHS Quarter Turn Stop Valve and CONTROL PLUS Measurement Valves, Figure 471 19  
Union Connections

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## product features

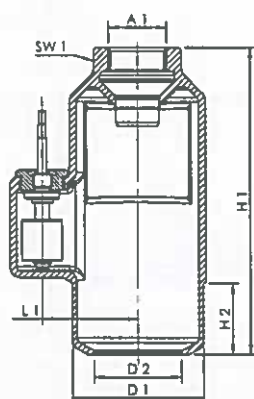
- wetted metal parts made from dezincification-free and corrosion-resistant gunmetal, resistant against aggressive water
- to protect against overflow due to drain block
- easy maintenance while installed
- for connection to KHS Control Systems, KHS Timer Set and Leak Detection Systems
- for use in combination with KHS Quarter Turn Stop

### Valves

- female pipe thread
- Free Drain according to EN 1717 with integrated overflow sensor
- overflow sensor as NCC in delivery status, can be changed to NOC when turned
- for vertical installation

## technical data

- protection class IP68
- switching capacity 230 V, 0,04 A
- length of connection cable 1 m
- wire cross section 2 x 0,25 mm<sup>2</sup>



part no.	for DN	A1	D1 mm	D2 mm	H1 mm	H2 mm	L1 mm	SW1 mm	Wt kg
6880002000	15-20	Rp 3/4	75	50	176	41	55	48	1.55
6880002500	25	Rp 1	75	50	176	41	55	48	1.52
6880003200	32	Rp 1 1/4	75	50	176	41	55	48	1.44