

KEMPER hygiene system **KHS**[®]

➤ Technical datasheets and flowcharts

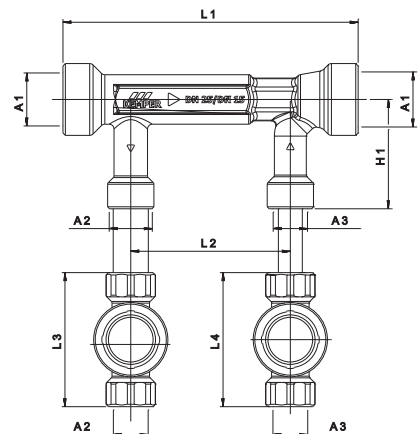


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Figure 640 00 KHS concealed Venturi Multi-Circ Distributor Unit, Flow and discharge with FT, Drain DN 15 / 15

Technical properties	
Fluid-contacting parts made completely of gunmetal	
For forced-vortex flow and continual water exchange in sanitary block	
With Venturi nozzle engineering	
Minimal pressure differences	
Maximum flow isolating ball valve DIN-/DVGW-approved according to DIN EN 13828, W 570	
VAV with removable head part 'Top Entry'	
Soundproofing tested in accordance with DIN EN ISO 3822	
Pressure stage PN 16	
Stagnant-zone-free	
Insulating shell building material class B1 compliant with DIN 4102	



640 00 KHS-Venturi Multi-Circ Distributor Unit for concealed mounting with female thread

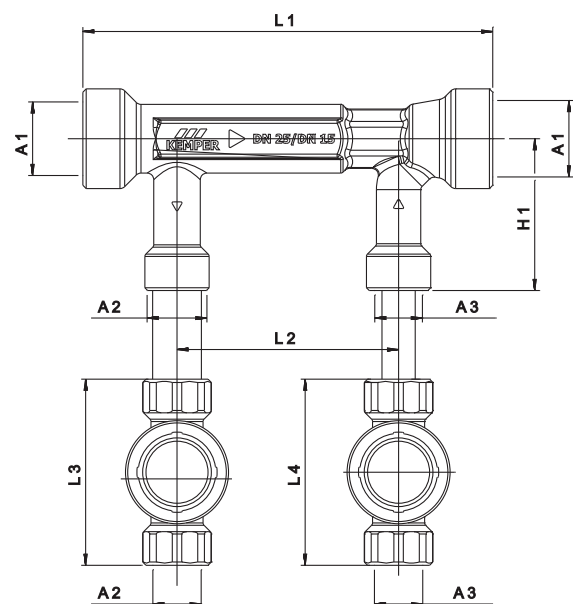
Product description / Tender text	
<p>KEMPER KHS-Venturi Multi-Circ Distributor Unit, for concealed installation in sanitary block area, for forced-vortex flow of the sanitary blocks in ring circuit installation for cold-water water tapping valves and furnishings, especially suitable for the KHS KEMPER Hygiene System comprising:</p> <p>Flow distributor based on the Venturi principle, with sanitary block feed line and sanitary block return line, made completely from gunmetal, resistant against aggressive water, with soundproofing certificate,</p> <p>Concealed Maximum flow isolating ball valves, extremely low-pressure loss version, compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, with continuously adjustable, plastic shaft that can be cut to length, depth up to 100 mm, as wall installation unit- Assembly kit 1, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and</p> <p>Insulating shells for maximum flow isolating ball valve and flow distributor, made of closed cell foamed polyethylene with additional, permanent outer shell, building material class B1 compliant with DIN 4102, Thermal conductivity according to ISO 2581 0.035 W/mK, incl. stopper clips, can be sealed diffusion-resistant with commercially available glues,</p> <p>Flow distributor inlet and output side with female thread from DN 15 (1/2") to DN 32 (1 1/4"),</p> <p>Sanitary block feed line and return line with female thread DN 15 (1/2"),</p> <p>Concealed maximum flow isolating ball VAV with female thread DN 15 (1/2")</p>	

- For more information please see reverse side

Optionally available accessories	
Final assembly set with handle	590 00 025
Final assembly set as a change stopper	591 00 025

Dimensions					
Nominal width	DN	15	20	25	32
Overall height (H1)	mm	48.5	58.5	68.5	73.5
Length (L1)	mm	185	185	185	195
Length (L2)	mm	100	100	100	100
Length (L3)	mm	84	84	84	84
Length (L4)	mm	84	84	84	84
Connection dimension (A1)		Rp 1/2	Rp 3/4	Rp 1	Rp 1 1/4
Connection dimension (A2)		Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2
Connection dimension (A3)		Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2

Materials	
Flow distributor	Gunmetal
Housing, interior head part	Gunmetal
Seal element	EPDM
Shaft, push-on spindle, cap	Plastic
Insulating shell	Polyethylene



**Figure 640 00 KHS concealed Venturi Multi-Circ Distributor Unit,
Flow and discharge with FT, Drain DN 15 / 15**

Technical information	
Area of application	
<ul style="list-style-type: none"> - The KHS Venturi Multi-Circ Venturi Distributor Unit provides a facility for controlled forced flow-through in drinking water systems by using tailor-made and innovative pipeline network structuring. - Together with the automatic KHS flushing equipment, a continuous drinking water exchange is produced to implement drinking water system operation in accordance with the requirements. - Every time water is withdrawn, which takes place in the flow path behind the KHS-Multi-Circ Venturi Distributor Unit, the water is also moved in the upstream ring lines, producing a continuous exchange. - That means permanent stagnation prevention. - Make sure the CDW line is laid out as a ring line and that all CDW consumers are looped (avoid T-installations). - It is recommended to calculate the hydraulic conditions in the DW system, e.g. with the Dendrit software. - Install the KHS-Multi-Circ Distributor Unit only together with KHS-VAV as KEMPER can only guarantee functional operation in bypass mode only with these valves (0 pressure-loss). 	

Figure	Flow distributor unit			Concealed VAV	
	Throughlet	Feed line	Return line	Feed line	Return line
640 00 015	IG 1/2"	IG 1/2"	IG 1/2"	IG 1/2"	IG 1/2"
640 00 020	IG 3/4"	IG 1/2"	IG 1/2"	IG 1/2"	IG 1/2"
640 00 025	IG 1"	IG 1/2"	IG 1/2"	IG 1/2"	IG 1/2"
640 00 032	IG 1 1/4"	IG 1/2"	IG 1/2"	IG 1/2"	IG 1/2"

Figure 640 03 KHS concealed Venturi Multi-Circ Distributor Unit, Flow and discharge with FT, Drain DN 20 / 15

Technical properties
Fluid-contacting parts made completely of gunmetal
For forced-vortex flow and continual water exchange in sanitary block
With Venturi nozzle engineering
Minimal pressure differences
Maximum flow isolating ball valve DIN-/DVGW-approved according to DIN EN 13828, W 570
VAV with removable head part 'Top Entry'
Soundproofing tested in accordance with DIN EN ISO 3822
Pressure stage PN 16
Stagnant-zone-free
Insulating shell building material class B1 compliant with DIN 4102



640 03 KHS-Venturi Multi-Circ Distributor Unit for concealed mounting with female thread

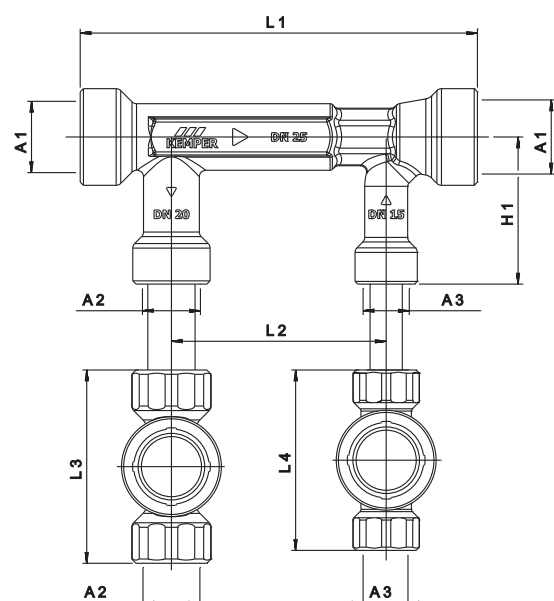
Product description / Tender text
KEMPER KHS-Venturi Multi-Circ Distributor Unit , for concealed installation in sanitary block area, for forced-vortex flow of the sanitary blocks In ring circuit installation for cold-water water tapping valves and furnishings, especially suitable for the KHS KEMPER Hygiene System comprising:
Flow distributor based on the Venturi principle, with sanitary block feed line and sanitary block return line, made completely from gunmetal, resistant against aggressive water, with soundproofing certificate,
Concealed Maximum flow isolating ball valves , extremely low-pressure loss version, compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, with continuously adjustable, plastic shaft that can be cut to length, depth up to 100 mm, as wall installation unit- Assembly kit 1, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and
Insulating shells for maximum flow isolating ball and distributor unit, made of closed cell foamed polyethylene with additional, permanent outer shell, building material class B1 compliant with DIN 4102, Thermal conductivity according to ISO 2581 0.035 W/mK, can be sealed diffusion-resistant with commercially available glues,
Distributor unit inlet and output side with female thread from DN 20 (3/4") to DN 32 (1 1/4"),
Sanitary block feed line DN 20 (3/4") and return line DN 15 (1/2") with female thread per each concealed maximum flow isolating ball valve VAV with DN 20 (3/4") and DN 15 (1/2") female thread

- For more information please see reverse side

Optionally available accessories	
Final assembly set with handle	590 00 025
Final assembly set as a change stopper	591 00 025

Dimensions				
Nominal width	DN	20	25	32
Overall height (H1)	mm	58.5	68.5	73.5
Length (L1)	mm	185	185	195
Length (L2)	mm	100	100	100
Length (L3)	mm	90	90	90
Length (L4)	mm	84	84	84
Connection dimension (A1)		Rp 3/4	Rp 1	Rp 1 1/4
Connection dimension (A2)		Rp 3/4	Rp 3/4	Rp 3/4
Connection dimension (A3)		Rp 1/2	Rp 1/2	Rp 1/2

Materials	
Flow distributor	Gunmetal
Housing, interior head part	Gunmetal
Seal element	EPDM
Shaft, push-on spindle, cap	Plastic
Insulating shell	Polyethylene



**Figure 640 03 KHS concealed Venturi Multi-Circ Distributor Unit,
Flow and discharge with FT, Drain DN 20 / 15**

Technical information

Area of application

- The KHS Venturi Multi-Circ Venturi Distributor Unit provides a facility for controlled forced flow-through in drinking water systems by using tailor-made and innovative pipeline network structuring.
- Together with the automatic KHS flushing equipment, a continuous drinking water exchange is produced to implement drinking water system operation in accordance with the requirements.
- Every time water is withdrawn, which takes place in the flow path behind the KHS-Multi-Circ Venturi Distributor Unit, the water is also moved in the upstream ring lines, producing a continuous exchange.
- That means permanent stagnation prevention.
- Make sure the CDW line is laid out as a ring line and that all CDW consumers are looped (avoid T-installations).
- It is recommended to calculate the hydraulic conditions in the DW system, e.g. with the Dendrit software.
- Install the KHS-Multi-Circ Distributor Unit only together with KHS-VAV as KEMPER can only guarantee functional operation in bypass mode only with these valves (0 pressure-loss).

Figure	Flow distributor unit			Concealed VAV	
	Throughlet	Feed line	Return line	Feed line	Return line
640 03 020	IG 3/4"	IG 3/4"	IG 1/2"	IG 3/4"	IG 1/2"
640 03 025	IG 1"	IG 3/4"	IG 1/2"	IG 3/4"	IG 1/2"
640 03 032	IG 1 1/4"	IG 3/4"	IG 1/2"	IG 3/4"	IG 1/2"

Figure 640 01 KHS concealed Venturi Multi-Circ Distributor Unit, Flow with MT, Drain with MT DN 15 / 15

Technical properties
Fluid-contacting parts made completely of gunmetal
For forced-vortex flow and continual water exchange in sanitary block
With Venturi nozzle engineering
Minimal pressure differences
Maximum flow isolating ball valve DIN-/DVGW-approved according to DIN EN 13828, W 570
VAV with removable head part 'Top Entry'
Soundproofing tested in accordance with DIN EN ISO 3822
Pressure stage PN 16
Stagnant-zone-free
Insulating shell building material class B1 compliant with DIN 4102



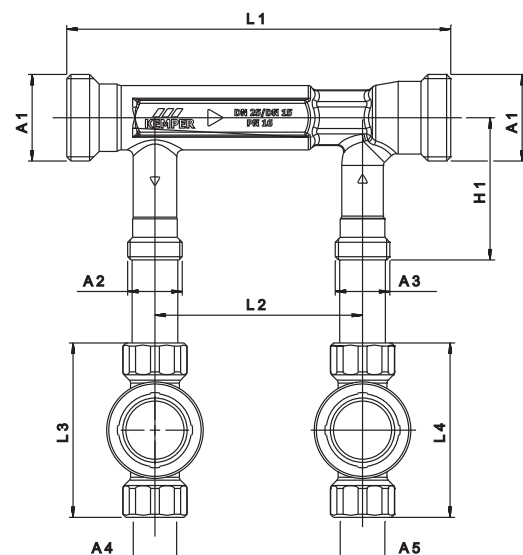
640 01 KHS-Venturi Multi-Circ Distributor Unit for concealed mounting with male thread

Product description / Tender text
<p>KEMPER KHS-Venturi Multi-Circ Distributor Unit, for concealed installation in sanitary block area, for forced-vortex flow of the sanitary blocks in ring circuit installation for cold-water water tapping valves and furnishings, especially suitable for the KHS KEMPER Hygiene System comprising:</p> <p>Flow distributor based on the Venturi principle, with sanitary block feed line and sanitary block return line, made completely from gunmetal, resistant against aggressive water, with soundproofing certificate,</p> <p>Concealed Maximum flow isolating ball valves, extremely low-pressure loss version, compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, with continuously adjustable, plastic shaft that can be cut to length, depth up to 100 mm, as wall installation unit- Assembly kit 1, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and</p> <p>Insulating shells for maximum flow isolating ball and distributor unit, made of closed cell foamed polyethylene with additional, permanent outer shell, building material class B1 compliant with DIN 4102, Thermal conductivity according to ISO 2581 0.035 W/mK, can be sealed diffusion-resistant with commercially available glues,</p> <p>Flow distributor inlet and output side with outer (male) thread (MT) from DN 15 (3/4") to DN 32 (1 1/2"), Sanitary block feed line and return line with outer (male) thread (MT) DN 15 (3/4"), Concealed maximum flow isolating ball VAV with female thread DN 15 (1/2")</p>

- For more information please see reverse side

Dimensions					
Nominal width	DN	15	20	25	32
Overall height (H1)	mm	48.5	58.5	68.5	73.5
Length (L1)	mm	185	185	185	195
Length (L2)	mm	100	100	100	100
Length (L3)	mm	84	84	84	84
Length (L4)	mm	84	84	84	84
Connection dimension (A1)		G 3/4	G 1	G 1 1/4	G 1 1/2
Connection dimension (A2)		G 3/4	G 3/4	G 3/4	G 3/4
Connection dimension (A3)		G 3/4	G 3/4	G 3/4	G 3/4
Connection dimension (A4)		Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2
Connection dimension (A5)		Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2

Materials	
Flow distributor	Gunmetal
Housing, interior head part	Gunmetal
Seal element	EPDM
Shaft, push-on spindle, cap	Plastic
Insulating shell	Polyethylene



**Figure 640 01 KHS concealed Venturi Multi-Circ Distributor Unit,
Flow with MT, Drain with MT DN 15 / 15**

Technical information
<p>Area of application</p> <ul style="list-style-type: none"> - The KHS Venturi Multi-Circ Venturi Distributor Unit provides a facility for controlled forced flow-through in drinking water systems by using tailor-made and innovative pipeline network structuring. - Together with the automatic KHS flushing equipment, a continuous drinking water exchange is produced to implement drinking water system operation in accordance with the requirements. - Every time water is withdrawn, which takes place in the flow path behind the KHS-Multi-Circ Venturi Distributor Unit, the water is also moved in the upstream ring lines, producing a continuous exchange. - That means permanent stagnation prevention. - Make sure the CDW line is laid out as a ring line and that all CDW consumers are looped (avoid T-installations). - It is recommended to calculate the hydraulic conditions in the DW system, e.g. with the Dendrit software. - Install the KHS-Multi-Circ Distributor Unit only together with KHS-VAV as KEMPER can only guarantee functional operation in bypass mode only with these valves (0 pressure-loss).

Optionally available accessories	
Final assembly set with handle	590 00 025
Final assembly set as a change stopper	591 00 025

Figure	Flow distributor unit			Concealed VAV	
	Throughlet	Feed line	Return line	Feed line	Return line
640 01 015	AG 3/4"	AG 3/4"	AG 3/4"	IG 1/2"	IG 1/2"
640 01 020	AG 1"	AG 3/4"	AG 3/4"	IG 1/2"	IG 1/2"
640 01 025	AG 1 1/4"	AG 3/4"	AG 3/4"	IG 1/2"	IG 1/2"
640 01 032	AG 1 1/2"	AG 3/4"	AG 3/4"	IG 1/2"	IG 1/2"

Figure 640 04 KHS concealed Venturi Multi-Circ Distributor Unit, Flow with MT, Drain with MT DN 20 / 15

Technical properties
Fluid-contacting parts made completely of gunmetal
For forced-vortex flow and continual water exchange in sanitary block
With Venturi nozzle engineering
Minimal pressure differences
Maximum flow isolating ball valve DIN-/DVGW-approved according to DIN EN 13828, W 570
VAV with removable head part 'Top Entry'
Soundproofing tested in accordance with DIN EN ISO 3822
Pressure stage PN 16
Stagnant-zone-free
Insulating shell building material class B1 compliant with DIN 4102



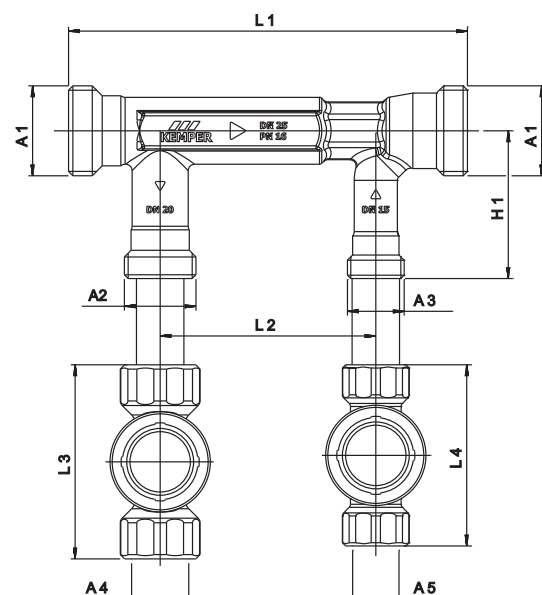
640 04 KHS-Venturi Multi-Circ Distributor Unit for concealed mounting with male thread

Product description / Tender text
<p>KEMPER KHS-Venturi Multi-Circ Distributor Unit, for concealed installation in sanitary block area, for forced-vortex flow of the sanitary blocks in ring circuit installation for cold-water water tapping valves and furnishings, especially suitable for the KHS KEMPER Hygiene System comprising:</p> <p>Flow distributor based on the Venturi principle, with sanitary block feed line and sanitary block return line, made completely from gunmetal, resistant against aggressive water, with soundproofing certificate,</p> <p>Concealed Maximum flow isolating ball valves, extremely low-pressure loss version, compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, with continuously adjustable, plastic shaft that can be cut to length, depth up to 100 mm, as wall installation unit- Assembly kit 1, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and</p> <p>Insulating shells for maximum flow isolating ball and distributor unit, made of closed cell foamed polyethylene with additional, permanent outer shell, building material class B1 compliant with DIN 4102, Thermal conductivity according to ISO 2581 0.035 W/mK, can be sealed diffusion-resistant with commercially available glues,</p> <p>Flow distributor inlet and output side with outer (male) thread (MT) from DN 20 (1") to DN 32 (1 1/2"), sanitary block feed line with outer (male) thread DN 20 (1") and return line with outer (male) thread (MT) DN 15 (3/4"), per each concealed maximum flow isolating ball valve VAV with DN 20 (3/4") female thread und DN 15 (1/2") with female thread</p>

- For more information please see reverse side

Dimensions				
Nominal width	DN	20	25	32
Overall height (H1)	mm	58,5	68,5	73,5
Length (L1)	mm	185	185	195
Length (L2)	mm	100	100	100
Length (L3)	mm	90	90	90
Length (L4)	mm	84	84	84
Connection dimension (A1)		G 1	G 1 1/4	G 1 1/2
Connection dimension (A2)		G 1	G 1	G 1
Connection dimension (A3)		G 3/4	G 3/4	G 3/4
Connection dimension (A4)		Rp 3/4	Rp 3/4	Rp 3/4
Connection dimension (A5)		Rp 1/2	Rp 1/2	Rp 1/2

Materials	
Flow distributor	Gunmetal
Housing, interior head part	Gunmetal
Seal element	EPDM
Shaft, push-on spindle, cap	Plastic
Insulating shell	Polyethylene



**Figure 640 04 KHS concealed Venturi Multi-Circ Distributor Unit,
Flow with MT, Drain with MT DN 20 / 15**

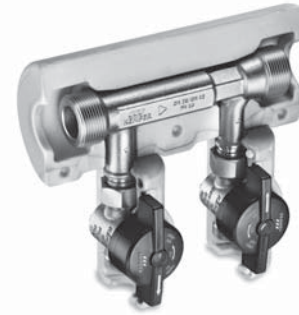
Technical information
<p>Area of application</p> <ul style="list-style-type: none"> - The KHS Venturi Multi-Circ Venturi Distributor Unit provides a facility for controlled forced flow-through in drinking water systems by using tailor-made and innovative pipeline network structuring. - Together with the automatic KHS flushing equipment, a continuous drinking water exchange is produced to implement drinking water system operation in accordance with the requirements. - Every time water is withdrawn, which takes place in the flow path behind the KHS-Multi-Circ Venturi Distributor Unit, the water is also moved in the upstream ring lines, producing a continuous exchange. - That means permanent stagnation prevention. - Make sure the CDW line is laid out as a ring line and that all CDW consumers are looped (avoid T-installations). - It is recommended to calculate the hydraulic conditions in the DW system, e.g. with the Dendrit software. - Install the KHS-Multi-Circ Distributor Unit only together with KHS-VAV as KEMPER can only guarantee functional operation in bypass mode only with these valves (0 pressure-loss).

Optionally available accessories	
Final assembly set with handle	590 00
Final assembly set as a change stopper	591 00

Figure	Flow distributor unit			Concealed VAV	
	Throughlet	Feed line	Return line	Feed line	Return line
640 04 020	AG 1"	AG 1"	AG 3/4"	IG 3/4"	IG 1/2"
640 04 025	AG 1 1/4"	AG 1"	AG 3/4"	IG 3/4"	IG 1/2"
640 04 032	AG 1 1/2"	AG 1"	AG 3/4"	IG 3/4"	IG 1/2"

Figure 640 02 KHS-Venturi Multi-Circ Distributor Unit, Flow and discharge with MT, Drain DN 15 / 15

Technical properties
Fluid-contacting parts made completely of gunmetal
For forced-vortex flow and continual water exchange in sanitary block
With Venturi nozzle engineering
Minimal pressure differences
Maximum flow isolating ball valve DIN-/DVGW-approved according to DIN EN 13828, W 570
VAV with removable head part 'Top Entry'
Soundproofing tested in accordance with DIN EN ISO 3822
Pressure stage PN 16
Stagnant-zone-free
Insulating shell building material class B1 compliant with DIN 4102



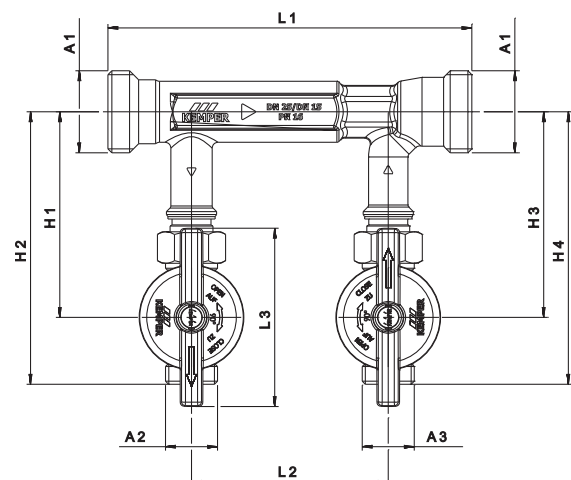
640 02 KHS-Venturi Multi-Circ Distributor Unit for surface mounting with MT / coupling nut

Product description / Tender text
KEMPER KHS-Venturi Multi-Circ Distributor Unit , for forced flow-through in sanitary block areas for CDW ring circuit installation cold-water water tapping valves and furnishings, especially suitable for the KEMPER KHS Hygiene System comprising:
Flow distributor based on the Venturi principle, with sanitary block feed line and sanitary block return line with union nut for direct connection to the maximum flow isolating ball, made entirely out of gunmetal, resistant against aggressive water, with soundproofing certificate,
Maximum flow isolating ball valves , extremely low-pressure loss version, compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, with ergonomically designed 90° rotating handle, with DIN/ DVGW and soundproofing certificate, rated pressure PN 16 and
Insulating shells for maximum flow isolating ball and distributor unit, made of closed cell foamed polyethylene with additional, permanent outer shell, building material class B1 compliant with DIN 4102, Thermal conductivity according to ISO 2581 0.035 W/mK, can be sealed diffusion-resistant with commercially available glues,
Flow distributor inlet and output side with outer (male) thread (MT) from DN 15 (3/4") to DN 32 (1 1/2"),
Sanitary block feed line and return line with union nut DN 15 (3/4"),
Surface mount maximum flow isolating ball VAV with male thread DN 15 (3/4")

- For more information please see reverse side

Dimensions					
Nominal width	DN	15	20	25	32
Overall height (H1)	mm	84.5	95	104.5	109.5
Overall height (H2)	mm	118.5	128.5	138.5	143.5
Overall height (H3)	mm	84.5	95	104.5	109.5
Overall height (H4)	mm	118.5	128.5	138.5	143.5
Length (L1)	mm	185	185	185	195
Length (L2)	mm	100	100	100	100
Length (L3)	mm	90	90	90	90
Connection dimension (A1)		G 3/4	G 1	G 1 1/4	G 1 1/2
Connection dimension (A2)		G 3/4	G 3/4	G 3/4	G 3/4
Connection dimension (A3)		G 3/4	G 3/4	G 3/4	G 3/4

Materials	
Flow distributor	Gunmetal
Housing, interior head part	Gunmetal
Seal element	EPDM
Handle	Plastic
Coupling nut	Brass
Insulating shell	Polyethylene



**Figure 640 02 KHS-Venturi Multi-Circ Distributor Unit,
Flow and discharge with MT, Drain DN 15 / 15**

Technical information

Area of application

- The KHS Venturi Multi-Circ Venturi Distributor Unit provides a facility for controlled forced flow-through in drinking water systems by using tailor-made and innovative pipeline network structuring.
- Together with the automatic KHS flushing equipment, a continuous drinking water exchange is produced to implement drinking water system operation in accordance with the requirements.
- Every time water is withdrawn, which takes place in the flow path behind the KHS-Multi-Circ Venturi Distributor Unit, the water is also moved in the upstream ring lines, producing a continuous exchange.
- That means permanent stagnation prevention.
- Make sure the CDW line is laid out as a ring line and that all CDW consumers are looped (avoid T-installations).
- It is recommended to calculate the hydraulic conditions in the DW system, e.g. with the Dendrit software.
- Install the KHS-Multi-Circ Distributor Unit only together with KHS-VAV as KEMPER can only guarantee functional operation in bypass mode only with these valves (0 pressure-loss).

Figure	Flow distributor unit	Concealed VAV	
		Feed line	Return line
	Throughlet		
640 02 015	AG 3/4"	AG 3/4"	AG 3/4"
640 02 020	AG 1"	AG 3/4"	AG 3/4"
640 02 025	AG 1 1/4"	AG 3/4"	AG 3/4"
640 02 032	AG 1 1/2"	AG 3/4"	AG 3/4"

Figure 640 05 KHS-Venturi Multi-Circ Distributor Unit, Flow and discharge with MT, Drain DN 20 / 15

Technical properties
Fluid-contacting parts made completely of gunmetal
For forced-vortex flow and continual water exchange in sanitary block
With Venturi nozzle engineering
Minimal pressure differences
Maximum flow isolating ball valve DIN-/DVGW-approved according to DIN EN 13828, W 570
VAV with removable head part 'Top Entry'
Soundproofing tested in accordance with DIN EN ISO 3822
Pressure stage PN 16
Stagnant-zone-free
Insulating shell building material class B1 compliant with DIN 4102



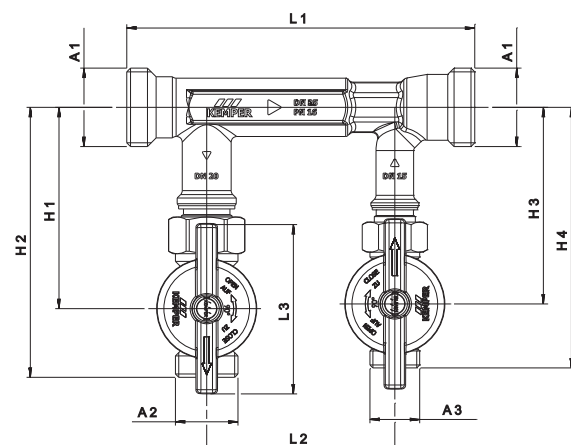
640 05 KHS-Venturi Multi-Circ Distributor Unit for surface mounting with MT / coupling nut

Product description / Tender text
KEMPER KHS-Venturi Multi-Circ Distributor Unit , for forced flow-through in sanitary block areas for CDW ring circuit installation cold-water water tapping valves and furnishings, especially suitable for the KEMPER KHS Hygiene System comprising:
Flow distributor based on the Venturi principle, with sanitary block feed line and sanitary block return line with union nut for direct connection to the maximum flow isolating ball, made entirely out of gunmetal, resistant against aggressive water, with soundproofing certificate,
Maximum flow isolating ball valves , extremely low-pressure loss version, compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, with ergonomically designed 90° rotating handle, with DIN/ DVGW and soundproofing certificate, rated pressure PN 16 and
Insulating shells for maximum flow isolating ball and distributor unit, made of closed cell foamed polyethylene with additional, permanent outer shell, building material class B1 compliant with DIN 4102, Thermal conductivity according to ISO 2581 0.035 W/mK, can be sealed diffusion-resistant with commercially available glues,
Flow distributor inlet and outlet side with outer (male) thread (MT) from DN 20 (1") to DN 32 (1 1/2"), sanitary block feed line with union nut DN 20 (1") and return line with outer (male) thread (MT) DN 15 (3/4"), per each surface mount maximum flow isolating ball valve VAV with DN 20 (1") and DN 15 (3/4") male threads

- For more information please see reverse side

Dimensions				
Nominal width	DN	20	25	32
Overall height (H1)	mm	97	107	112
Overall height (H2)	mm	133.5	143.5	148.5
Overall height (H3)	mm	95	104.5	109.5
Overall height (H4)	mm	128.5	138.5	143.5
Length (L1)	mm	185	185	195
Length (L2)	mm	100	100	100
Length (L3)	mm	90	90	90
Connection dimension (A1)		G 1	G 1 1/4	G 1 1/2
Connection dimension (A2)		G 1	G 1	G 1
Connection dimension (A3)		G 3/4	G 3/4	G 3/4

Materials	
Flow distributor	Gunmetal
Housing, interior head part	Gunmetal
Seal element	EPDM
Handle	Plastic
Coupling nut	Brass
Insulating shell	Polyethylene



**Figure 640 05 KHS-Venturi Multi-Circ Distributor Unit,
Flow and discharge with MT, Drain DN 20 / 15**

Technical information	
Area of application	
<ul style="list-style-type: none"> - The KHS Venturi Multi-Circ Venturi Distributor Unit provides a facility for controlled forced flow-through in drinking water systems by using tailor-made and innovative pipeline network structuring. - Together with the automatic KHS flushing equipment, a continuous drinking water exchange is produced to implement drinking water system operation in accordance with the requirements. - Every time water is withdrawn, which takes place in the flow path behind the KHS-Multi-Circ Venturi Distributor Unit, the water is also moved in the upstream ring lines, producing a continuous exchange. - That means permanent stagnation prevention. - Make sure the CDW line is laid out as a ring line and that all CDW consumers are looped (avoid T-installations). - It is recommended to calculate the hydraulic conditions in the DW system, e.g. with the Dendrit software. - Install the KHS-Multi-Circ Distributor Unit only together with KHS-VAV as KEMPER can only guarantee functional operation in bypass mode only with these valves (0 pressure-loss). 	

Figure	Flow distributor unit	Concealed VAV	
		Feed line	Return line
	Throughlet		
640 05 020	AG 1"	AG 1"	AG 3/4"
640 05 025	AG 1 1/4"	AG 1"	AG 3/4"
640 05 032	AG 1 1/2"	AG 1"	AG 3/4"

Figure 629 0G KHS temperature sensor valve Pt 1000 with union coupling nut and male thread

Technical properties
Pt 1000 4-conductor measuring element, tolerance class A according to DIN EN 60751
Connection line 1 m, 4 x 0.22 mm ² , with wire-end sleeves operating temperature range 0 - 105 °C
Protective sleeve, sensor ø 6 mm
1.4571 stainless steel sensor
Suitable for BMS and KEMPER KHS-Logic control system
made completely from gunmetal
Sensor in medium

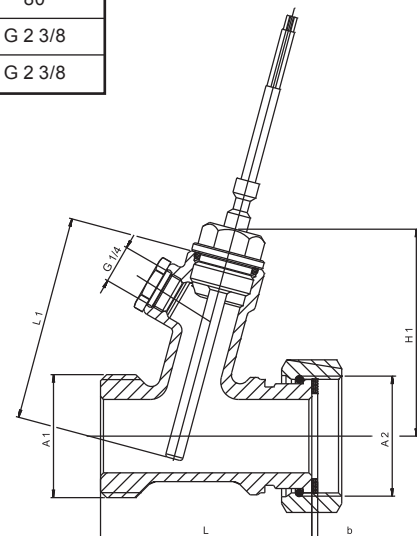


629 0G KHS temperature sensor valve Pt 1000 including resistance thermometer

Product description / Tender text
KEMPER KHS temperature sensor valve Pt 1000 , as interface to KHS-Logic control system or to I&C units, low pressure-loss housing with full flow-through completely made of gunmetal, resistant to aggressive water, stagnant-zone-free, with permanently installed Pt 1000 resistance thermometer with 4-conductor engineering, tolerance class DIN EN 60758 Class A, stainless steel protective sleeve 6 mm, connection cable 1 m, 4 x 0.22 mm ² , with wire-end sleeves, rated pressure PN 16,
outlet side with coupling nut, inlet side with male thread for universal connection to fittings for copper, steel, stainless steel and multilayer duplex tubes, from DN 15 (3/4") to DN 50 (2 3/8")

Dimensions							
Nominal width	DN	15	20	25	32	40	50
Overall height (H1)	mm	65	68	70.5	78	79	88.5
Length (L)	mm	65	67	72	77	82	90
Length (L1)	mm	60	60	70	80	80	80
Connection dimension (A1)		G 3/4	G 1	G 1 1/4	G 1 1/2	G 1 3/4	G 2 3/8
Connection dimension (A2)		G 3/4	G 1	G 1 1/4	G 1 1/2	G 1 3/4	G 2 3/8

Materials	
Housing	Gunmetal
Plug stoppers	Gunmetal
Sensor	Niro
Flat gaskets	EPDM
Gaskets	EPDM
Coupling nut	Brass
Sensor	Stainless steel 1.4571



Technical information
The KEMPER KHS Pt1000 temperature sensor valve is used in hygiene systems to register system temperatures in the CDW and WDW areas. That means temperature-controlled plant processes can be activated from a central, computerised control centre. Centralising the temperature state messages in the CDW and WDW and automating the stop valves facilitates cost effective facility management and drinking water hygiene.

Figure 628 0G KHS temperature sensor valve Pt 1000 with male thread on both sides

Technical properties
Pt 1000 4-conductor measuring element, tolerance class A according to DIN EN 60751
Connection line 1 m, 4 x 0.22 mm ² , with wire-end sleeves
operating temperature range 0 - 105°C
Protective sleeve, sensor ø 6 mm
1.4571 stainless steel sensor
Suitable for BMS and KEMPER KHS-Logic control system Made completely from gunmetal
Sensor in medium

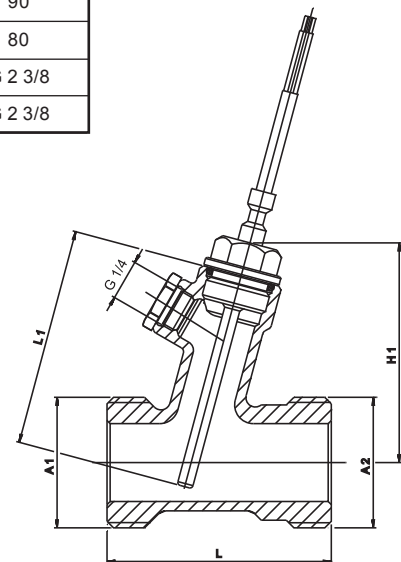


628 0G KHS temperature sensor valve Pt 1000 including resistance thermometer

Product description / Tender text
KEMPER KHS temperature sensor valve Pt 1000 , as interface to KHS-Logic control system or to I&C system, low-pressure loss housing with full flow, completely in gunmetal, resistance against aggressive water, stagnant-zone-free, with permanently installed Pt 1000 resistance thermometer with 4-conductor engineering, tolerance class DIN EN 60758 Class A, stainless steel protective sleeve 6 mm, 1 m connection cable, 4 x 0.22 mm ² , with wire-end sleeves, rated pressure PN 16,
both sides with male thread to universal connection to fittings for copper, steel, stainless steel and multilayer duplex tubes, from DN 15 (3/4") to DN 50 (2 3/8")

Dimensions							
Nominal width	DN	15	20	25	32	40	50
Overall height (H1)	mm	65	68	70,5	78	79	88,5
Length (L)	mm	65	67	72	77	82	90
Length (L1)	mm	60	60	70	80	80	80
Connection dimension (A1)		G 3/4	G 1	G 1 1/4	G 1 1/2	G 1 3/4	G 2 3/8
Connection dimension (A2)		G 3/4	G 1	G 1 1/4	G 1 1/2	G 1 3/4	G 2 3/8

Materials	
Housing	Gunmetal
Plug stoppers	Gunmetal
Sensor	Niro
Flat gaskets	EPDM
Gaskets	EPDM
Sensor	Stainless steel 1.4571



Technical information
The KEMPER KHS Pt1000 temperature sensor valve is used in hygiene systems to register system temperatures in the CDW and WDW areas. That means temperature-controlled plant processes can be activated from a central, computerised control centre. Centralising the messages about temperature conditions in cold and warm water and automating stop valves helps implement cost effective facility management and drinking water hygiene.

Figure 638 KHS flow sensor valve both sides with male thread

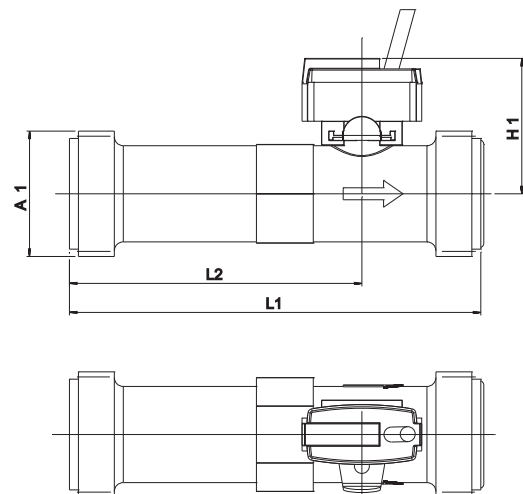
Technical properties
On-chip flow sensor
No moving parts
Measurement range 5-100 l/min (DN 20)
Measurement range 10-20 l/min (DN 25)
Measurement precision (in 0 - 100 °C range) ± 1.5 % of measurement range value
Power supply 5 V
Protection class IP 44
Pressure stage PN 10
Plastic housing with CDW permit
Fluid temperature 0 °C - 110 °C
Suitable for BMS and KEMPER KHS-Logic system control



**638 00 KHS-Vortex flow sensor
DN 20 and DN 25**

Product description / Tender text
KEMPER KHS-vortex flow sensor , for connecting to the KHS-Logic control system, made completely with plastic, On-chip vortex sensor for drinking water, with vortex flow measurement rout and integrated vortexing element, no moving parts in liquid,
Figure 638 00 020: Vortex measurement range 5 - 100 l/min, Supply voltage: 5 V / DC, Output signals proportional to vortex flow: 0.5 3.5 V / DC proportional to 5 - 100 l/min,
Figure 638 00 025: Vortex measurement range 10 - 200 l/min, Supply voltage: 5 V / DC, Output signals proportional to vortex flow: 0.5 3.5 V / DC proportional to 10 - 200 l/min,
Connection cable 1.2 m, 4 x 0.6 mm ² , Rated pressure PN 10,
Both sides with flat sealing male thread for universal connection to fittings for copper, steel, stainless steel and multilayer duplex tubes, DN 20 (1") and DN 25 (1 1/4")

Dimensions			
Nominal width	DN	20	25
Overall height (H1)	mm	41.8	45.25
Length (L1)	mm	129	138
Length (L2)	mm	92.5	98.5
Connection dimension (A1)		G 1	G 1 1/4



Materials	
Housing	Grivory plastic
Retaining clip	Niro
Gaskets	EPDM

Technical information
The KHS-Vortex Flow Sensor is a system for precise flow measurement that comprises an eddy current generator and a differential pressure sensor. The sensor's 0.5 - 3.5 V output signal changes proportionally to the flow rate. The flow rate can be evaluated in the volume-flow measurement in the KHS-Logic control system or by the computer-supported monitoring console.
- The vortex flow sensor should not be used for flow rates lower than those stated in the measurement range (Measurements below the measurement range are affected by large errors).

Figure 686 00 KHS-VAV Maximum flow isolating ball valve with servo drive, 24 Volt AC / DC

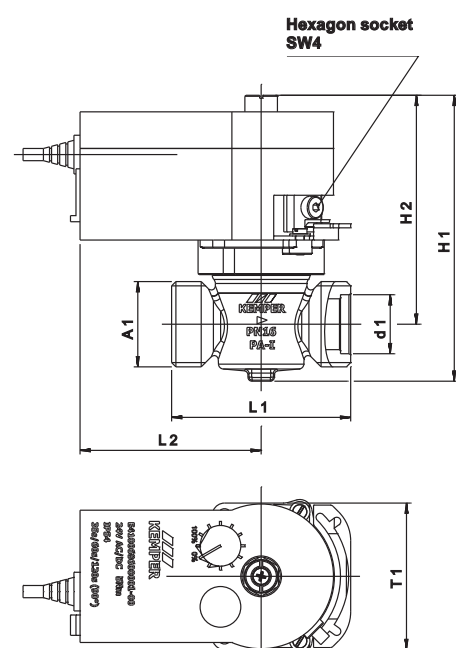
Technical properties
Medium-contacting parts made of gunmetal
Removable head part 'Top Entry'
VAV DIN-/DVGW approved according to W 570 and DIN EN 13828
Pressure-impact free operation
Pressure stage PN 16
Simple maintenance when installed
Stagnant-zone-free
Connection to the KHS-Logic control system with position feedback
0...10 V position feedback, 0 V = drive closed / 10 V = drive completely open
Supply voltage 24 V AC / DC, Connection cable 1.2 m, 5 x 0.5 mm ²
Power consumption 5 V / 9 VA
Maintenance-free transmission
Perm. ambient temperature up to 55 °C
Protection class: IP54



686 00 KHS-VAV Maximum flow isolating ball valve with servo drive for KHS-Logic, 24 Volts

Product description / Tender text
<p>KEMPER KHS-VAV Maximum flow isolating ball valve with servo drive for KHS-Logic control system, especially suitable for the KEMPER Hygiene System KHS, consisting of:</p> <p>Maximum flow isolating ball valve, compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, can be rotated 90°, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and</p> <p>Servo drive, for connection to the KHS-Logic control system as 2-point controller with valve feedback completely open and completely closed, Supply voltage 24 V AC / DC, runtime 90° 30 sec., with step motor and maintenance-free transmission, with self-centring axle adapter and fixed flange for installation on the valve, connection cable 1.2 m, 5 x 0.50 mm²,</p> <p>both sides with male thread for universal connection to fittings for copper, steel, stainless steel, multilayer duplex tubes, from DN 15 (3/4") to DN 32 (1 1/2")</p>

Dimensions					
Nominal width	DN	15	20	25	32
Overall height (H1)	mm	135	135	140.5	146.5
Overall height (H2)	mm	110	110	112.5	115.5
Length (L1)	mm	68	73	88	93
Length (L2)	mm	89	89	89	89
Connection dimension (A1)		G 3/4	G 1	G 1 1/4	G 1 1/2
Depth (T1)	mm	72	72	72	72
Diameter (d1)	mm	18	22.5	29	35



Materials	
Housing, interior head part	Gunmetal
Spindle	Gunmetal
Seal element	EPDM
Coupling	Brass
Drive housing	Self-extinguishing plastic
Axis adapter	Steel
Flange adapter	PA

**Figure 686 00 KHS-VAV Maximum flow isolating ball valve
with servo drive, 24 Volt AC / DC**

Technical information

Area of application

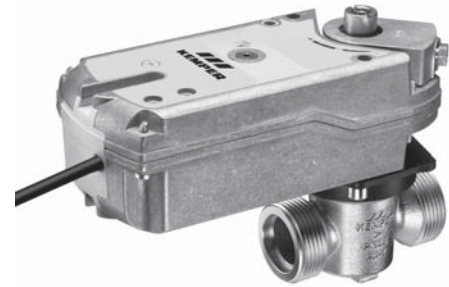
- Install the KHS-VAV in drinking water installations for the KEMPER hygiene system in order to maintain operation as intended in CDW and WDW as well as in the maintenance, stop and pressure limiting valve (in accordance with DIN 1988-2).
- The valve can be used together with the KEMPER KHS-Logic control system or for building control systems.
- It is referred to as the A-Valve in the KHS-Logic control system.
- The valve is not suited to restricting volume flows, so its intended use is solely for FULL OPENING or FULL CLOSING.

Maintenance

- According to DIN 1988-1, the operator has to inspect annually.
- Please refer to the installation and operating instructions for further information.

Figure 686 01 KHS-VAV-plus Maximum flow isolating ball valve with spring-reset servo drive, 24 Volts DC

Technical properties
Medium-contacting parts made of gunmetal
Removable head part 'Top Entry'
VAV DIN-/DVGW approved according to W 570 and DIN EN 13828
Pressure-impact free operation
Pressure stage PN 16
Simple maintenance when installed
Stagnant-zone-free
Connection to the KHS-Logic control system with position feedback
0...10 V position feedback, 0 V = drive closed / 10 V = drive completely open
Supply voltage 24 V DC, Connection cable 0.9 m, 4 x 0.75 mm ²
Power consumption 2.5 V / 3.5 VA
Maintenance-free transmission
Perm. ambient temperature up to 55°C
Protection class: IP54
Valve closes automatically during power failures

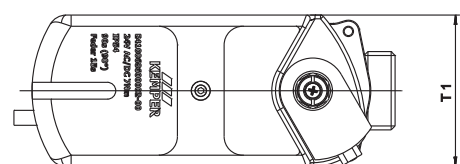
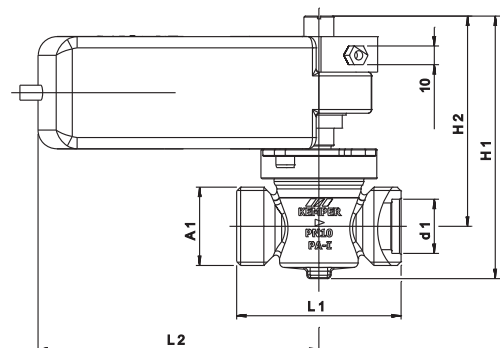


686 01 KHS-VAV plus Maximum flow isolating ball valve with spring-reset servo drive for KHS-Logic, 24 Volts

Product description / Tender text
KEMPER KHS-VAV-plus Maximum flow isolating ball valve with spring-reset servo drive for KHS-Logic control system, especially suitable for the KEMPER Hygiene System KHS, consisting of:
Maximum flow isolating ball valve, in accordance with DIN EN 13828, corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing' Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, can be rotated 90°, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and
Servo drive, for connection to the KHS-Logic control system as 2-point controller with valve feedback completely open, Supply voltage 24 V DC, runtime motor 90° 90 sec., closing through spring 15 sec., resets in case of voltage drops, electronic torque-dependent switch-off, with self-centring lock lever and fixed flange for installation on the valve, hexagonal spanner for manual adjustment or spring-lift, connection cable 0.9 m, 4 x 0.75 mm ² ,
both sides with male thread for universal connection to fittings for copper, steel, stainless steel and multilayer duplex tube, from DN 15 (3/4") to DN 32 (1 1/2")

A 24 V DC to AC transformer module needs to be integrated for operation with 24 V AC (see next page).

Dimensions					
Nominal width	DN	15	20	25	32
Overall height (H1)	mm	135	135	140,5	146,5
Overall height (H2)	mm	110	110	112,5	115,5
Length (L1)	mm	68	73	88	93
Length (L2)	mm	150,3	150,3	150,3	150,3
Connection dimension (A1)		G 3/4	G 1	G 1 1/4	G 1 1/2
Depth (T1)	mm	81	81	81	81
Diameter (d1)	mm	18	22,5	29	35

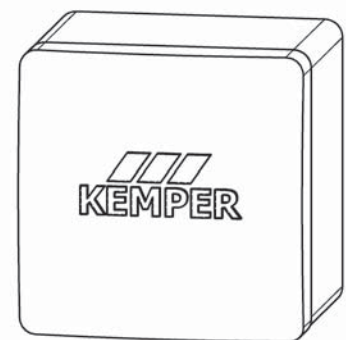


Materials	
Housing, interior head part	Gunmetal
Spindle	Gunmetal
Seal element	EPDM
Coupling	Brass
Drive housing	Light-metal casting
Axis adapter	Steel
Flange adapter	PA

Figure 686 01 KHS-VAV-plus Maximum flow isolating ball valve with spring-reset servo drive, 24 Volts DC

Technical information
<p>Area of application</p> <ul style="list-style-type: none"> - Install the KHS-VAV-plus in drinking water installations for the KEMPER hygiene system to maintain the intended use in CDW and WDW operation. Install as a terminal flushing valve in stagnating drinking waterlines. - If the power fails during flushing, the valve automatically closes in connection with the KHS-Logic control system (closes currentless). - The valve can be used together with the KEMPER KHS Logic control system for building I&C systems. It is referred to as the B-Valve or C-Valve in the KHS-Logic system controller. - The valve is not suited to restricting volume flows, so its intended use is solely for FULL OPENING or FULL CLOSING. <p>Maintenance</p> <ul style="list-style-type: none"> - According to DIN 1988-1, the operator has to inspect annually. - Please refer to the installation and operating instructions for further information.

Figure 686 01 001 24 V AC Transformer Module for KHS VAV-Plus Figure 686 01



KEMPER transformer module for 24 V AC drive operation

Product Description / Tender Text
<p>KEMPER transformer module with circuit board and IP 65 casing for operating the KHS-VAV maximum flow stop valve with 24V spring reset servomotor, Figure 686 01, with 24 V AC power supply, casing 80 x 80 x 75, 2x M16 screwed cable gland</p>

Technical Information
<p>The KEMPER transformer module needs to be installed in the direct vicinity of the drive. The transformer module is only applicable for the Figure 686 01 drive.</p>

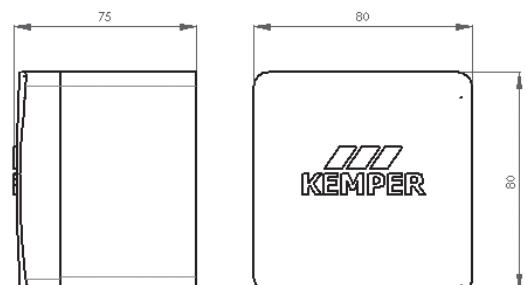


Figure 688 00 KHS-drain with overflow monitor

Technical properties
For connection to KHS-Logic control system or KEMPER leak protection system
Monitors backpressurised wastewater
Drain appliance according to DIN EN 1717 for dewatering connection DN 70
Made completely of gunmetal
With permanently installed float switch
Contact function: 0= Opener, optionally by reversing the floater
S = Closer
Simple maintenance when installed
Power consumption max. 27 VA / 0,8 A / 230 V AC
Protection class IP68
Vertical installation position

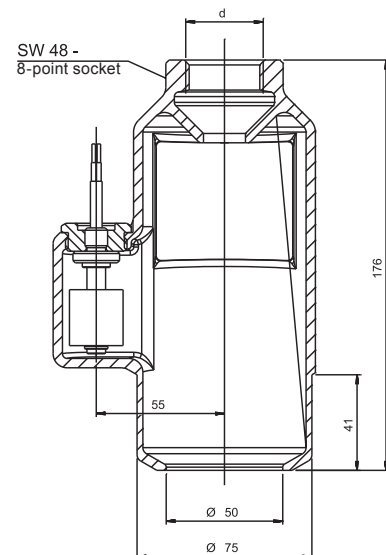


688 00 KHS-drain
with float switch

Product description / Tender text
KEMPER KHS-drain with overflow monitor , for connection to the KHS-Logic control system or KEMPER leak protection system, as drain appliance according to DIN EN 1717 for direct connection to the DN 70 wastewater line, made entirely of gunmetal, resistant against aggressive water, with permanently installed float switch for backpressure monitoring, connection cable length 1.0 m, 2 x 0.25 mm ²
With female thread from DN 20 (3/4") to DN 32 (1 1/4")

Dimensions				
Nominal width	DN	20	25	32
Connection dimension (d)		Rp 3/4	Rp 1	Rp 1 1/4

Materials	
Housing	Gunmetal
Brass tube	POM
Floater	Buna
Floater cover	MS
Cable	PVC



Technical information
Area of application
- KHS drain with overflow monitor for connection to the KEMPER KHS-Logic control system or KEMPER leak protection system
- Monitoring the flushing valve transfer point to the sewer connection against flooding
- Drain appliance in accordance with DIN EN 1717 for direct connection to the wastewater line (layout of WW line according to DIN EN 12056 required)
- The permanently installed float switch for monitoring backed-up wastewater has a contact function (0 = opener) when the level is rising (optionally closer function by reversing the floater).
Maintenance
Annual inspection of the floater switch is recommended.

Figure 687 KHS orifice plate

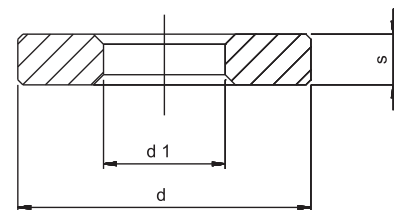
Technical properties
 Orifice plate for KHS-VAV-plus to maintain the flow rate of max. 5 m/s in the flush line.
 The outlet of the orifice plate is inserted into the KHS-VAV-plus.



687 Orifice plate

Product description / Tender text
KEMPER orifice plate for KHS-VAV-plus Maximum flow isolating ball valve with spring-reset servo drive, for limiting the drain flow by inserting on outlet of the KHS-VAV-plus Type B/C, made entirely of gunmetal, reliably resistant to aggressive water,
Figure 687 05 015 Nominal width DN 15, diameter 5 mm
Figure 687 08 020 Nominal width DN 20, diameter 8 mm
Figure 687 09 020 Nominal width DN 20, diameter 9 mm
Figure 687 10 020 Nominal width DN 20, diameter 10 mm
Figure 687 11 020 Nominal width DN 20, diameter 11 mm
Figure 687 12 025 Nominal width DN 25, diameter 12 mm
Figure 687 13 025 Nominal width DN 25, diameter 13 mm
Figure 687 14 025 Nominal width DN 25, diameter 14 mm
Figure 687 15 025 Nominal width DN 25, diameter 15 mm
Figure 687 16 032 Nominal width DN 32, diameter 16 mm
Figure 687 17 032 Nominal width DN 32, diameter 17 mm

Dimensions												
Nominal width	DN	15	20				25				32	
A-diameter (d)	mm	18	22,5	22,5	22,5	22,5	29	29	29	29	35	35
I-diameter (d1)	mm	5	8	9	10	11	12	13	14	15	16	17
Thickness (s)	mm	5	5	5	5	5	5	5	5	5	5	5
Figure no.		68705015	68708020	68709020	68710020	68711020	68712025	68713025	68714025	68715025	68716032	68717032



Materials	
Orifice plate	Gunmetal

Technical information
Area of application
 The KHS-orifice plates are used to reduce the flushing volume currents in terminal flushing valves (KHS-VAV-plus Maximum flow isolating ball valve with spring-reset servodrive). Depending on the flush line layout, high flow velocities can arise during planned flushing. So when calculating with the Dendrit software, the matching orifice panels for each VAV-plus-valve with spring-reset are already designed in the forefront for ca. 3 m/s.
 Please note that the orifice plates can only be inserted in the outlet side in the intended enclosure.

Figure 686 02 003 KHS-Logic Control System special version

Technical properties
For connecting sensors and actuators (servomotors)
With parameterization software
230 V Power supply
Maximum ambient temperature 55 °C
CX_9000 computer
IP55 protection class
Equipped in line with client requirements for connecting:
Servomotors (Type A, B or C)
Pt 1000 temperature measurement devices
Throughput measurement devices
Overflow monitoring units
Hygiene flush units



686 02 003 special version

Product description / Tender text ⁽¹⁾
<p>KEMPER KHS Logic Control System for the performance and documentation of flushing processes in cold potable water, as well as temperature monitoring in hot potable water, comprising a parameterization and visualisation software for operating the KEMPER KHS, including the possible output of a flushing report for displaying and evaluating the flushing processes carried out, a temperature protocol for hot potable water, a CX_9000 computer with Ethernet interface for integration in a building network or a local laptop interconnection, 230 V power supply, protection class IP 55, maximum ambient temperature 55°C, control system with SPC and control modules for KHS sensors and actuators, for driving and evaluating the signals of:</p> <p>Servomotors (type A, B or C) Pt 1000 temperature measurement devices Throughput measurement devices Overflow monitoring units Hygiene flushing units</p> <p>In the operating modes</p> <ul style="list-style-type: none"> - time control - temperature control - flow rate control

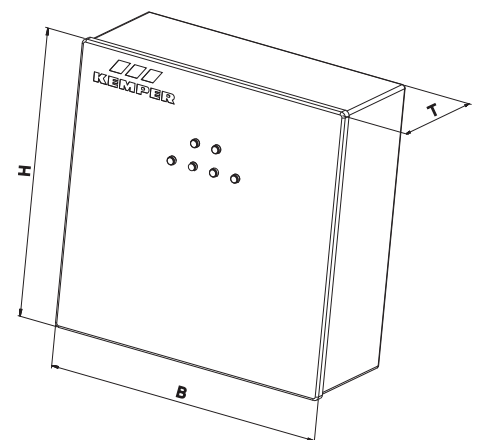
- owing to the object-related configuration, the delivery period from order receipt / technical clarification amounts to 3 weeks

⁽¹⁾ The information listed on the next page and the „Service Engineer Services“ tender position need to be included in the tender specifications in order to ensure a smooth start-up, handover and briefing (Figure 99-3012).

Dimensions	
Height (H) mm	760
Width (B) mm	760
Depth (T) mm	210

- dimensions may vary, depending on requirements

Materials	
Casing	sheet steel, powder coated, grey



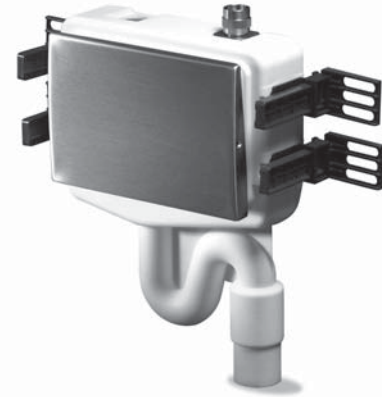
Technical Information
<p>The KHS Logic Control System provides a central interface for automated flushing processes in cold potable water systems, as well as a central monitoring unit for the temperature levels of hot potable water. It comprises a programmable control unit where the flushing programs and hot potable water monitoring parameters are stored and which is compatible with all KHS servomotors and sensors.</p> <p>The operator can select the required operation mode in a targeted manner by entering operation types such as time control, temperature control or volume flow control, while parameterizing the flushing volumes or periods previously established via simulation within the KHS Logic. The temperature sensors required for temperature monitoring in hot potable water can be integrated in the KHS Logic Control System and monitored individually.</p> <p>A fault message will then be given as soon as a predefined temperature level is no longer complied with. A temperature report for the cold/hot potable water system can be created.</p>

**Figure 99-3012, Start-Up
„Service Engineer Start-Up Services for KHS Logic“**

Tender Information for KHS Logic		
<p>KEMPER recommends the employment of a service engineer to ensure that the KEMPER KHS Logic Control System is started up correctly, in conjunction with the respectively integrated KHS components.</p> <p>The start-up activities to be put out to tender are described in the position „Service Engineer Start-Up Services for KHS Logic“ and need to be included in the tender specifications.</p> <p>Owing to the customized nature of the position „Service Engineer Start-Up Services for KHS Logic“, KEMPER will determine and offer an individual price for each single object. The cost level depends on the number of data points to be generated and the effort involved. KEMPER is only able to accept any warranty obligations for KHS Logic if a service engineer selected by KEMPER is employed for the entire start-up procedure. Only this way can malfunctions and any consequential damage to the control unit be excluded. KEMPER needs to be notified of the completion of the sanitary and electrical services to be provided by the client, including information on the respective contact persons in charge.</p> <p>Any sanitary/electrical services to be provided by the client but not rendered by the time the service engineer arrives at the building site may lead to additional costs. Any consequential costs resulting from this fact also need to be borne by the client.</p> <p>Taking KHS Logic into operation via a service engineer engaged by KEMPER serves to ensure the proper functioning and smooth operation of the system and its individual components. This will enable the operator to perform the flushing operations required for stagnation prevention in cold potable water and monitoring the temperature in hot potable water systems.</p> <p>The sanitary and electrical services to be rendered by the client are listed below and need to be completed locally at the building site before the arrival of the service technician selected by KEMPER.</p>		
<p>Information to be included in the tender specifications:</p> <p>The following sanitary and electrical conditions need to be provided by the client at the building site in order to ensure fast and complete service performance:</p> <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>Electrical services to be rendered by the client:</p> <ul style="list-style-type: none"> • Assembly of the KHS Control System with a 230 V AC mains connection • Installation of all the electrical wiring, wire lead-ins into the KHS Control System wall cabinet and dropping of the wires inside the wall cabinet. • Provisional marking of electrical wires and their entry in the wiring table (included in KHS Logic documentation) • Cable connections on the actuator and sensor side <p>Electrical engineering requirements</p> <p>The following conditions need to be met for the performance of a start-up:</p> <ul style="list-style-type: none"> • Provision of a floor space plan, information on the KHS components included in the operation and a wiring table (locally) • Completed power supply of the KHS Control Unit • Completed network connection (if required by the operator) • Trip release by the operator </td> <td style="vertical-align: top; width: 50%;"> <p>Sanitary services to be rendered by the client:</p> <ul style="list-style-type: none"> • Installation system completed, pressurized and ready for operation • The required drainage connections / KHS handover points are operational <p>Sanitary requirements</p> <p>The following conditions need to be met for the performance of a start-up:</p> <ul style="list-style-type: none"> • Sanitary line diagram with description of the KHS fixtures used • Sanitary floor space plan • Information on the KHS operation mode used for flushing activities (time-, temperature-, volume-controlled process) </td> </tr> </table>	<p>Electrical services to be rendered by the client:</p> <ul style="list-style-type: none"> • Assembly of the KHS Control System with a 230 V AC mains connection • Installation of all the electrical wiring, wire lead-ins into the KHS Control System wall cabinet and dropping of the wires inside the wall cabinet. • Provisional marking of electrical wires and their entry in the wiring table (included in KHS Logic documentation) • Cable connections on the actuator and sensor side <p>Electrical engineering requirements</p> <p>The following conditions need to be met for the performance of a start-up:</p> <ul style="list-style-type: none"> • Provision of a floor space plan, information on the KHS components included in the operation and a wiring table (locally) • Completed power supply of the KHS Control Unit • Completed network connection (if required by the operator) • Trip release by the operator 	<p>Sanitary services to be rendered by the client:</p> <ul style="list-style-type: none"> • Installation system completed, pressurized and ready for operation • The required drainage connections / KHS handover points are operational <p>Sanitary requirements</p> <p>The following conditions need to be met for the performance of a start-up:</p> <ul style="list-style-type: none"> • Sanitary line diagram with description of the KHS fixtures used • Sanitary floor space plan • Information on the KHS operation mode used for flushing activities (time-, temperature-, volume-controlled process)
<p>Electrical services to be rendered by the client:</p> <ul style="list-style-type: none"> • Assembly of the KHS Control System with a 230 V AC mains connection • Installation of all the electrical wiring, wire lead-ins into the KHS Control System wall cabinet and dropping of the wires inside the wall cabinet. • Provisional marking of electrical wires and their entry in the wiring table (included in KHS Logic documentation) • Cable connections on the actuator and sensor side <p>Electrical engineering requirements</p> <p>The following conditions need to be met for the performance of a start-up:</p> <ul style="list-style-type: none"> • Provision of a floor space plan, information on the KHS components included in the operation and a wiring table (locally) • Completed power supply of the KHS Control Unit • Completed network connection (if required by the operator) • Trip release by the operator 	<p>Sanitary services to be rendered by the client:</p> <ul style="list-style-type: none"> • Installation system completed, pressurized and ready for operation • The required drainage connections / KHS handover points are operational <p>Sanitary requirements</p> <p>The following conditions need to be met for the performance of a start-up:</p> <ul style="list-style-type: none"> • Sanitary line diagram with description of the KHS fixtures used • Sanitary floor space plan • Information on the KHS operation mode used for flushing activities (time-, temperature-, volume-controlled process) 	
<p>Tender Position: Figure 99-3012, Start-Up Service Engineer Start-Up Services for KHS Logic</p> <ul style="list-style-type: none"> • Identification of the electrical wires with plastic cable tags (service engineer delivery scope) • Provision of the prepared electrical connection wires • Performance of an input / output test on all actuators and sensors, including additional visual control to the extent possible architecturally • Input / output test report • Creation and loading of the project-specific application program in the KHS Control Unit (time, temperature or volume program) • Installation of the parameterization software in a PC provided by the client • Briefing of the operator <p>The contact persons for all the trades involved (sanitary fitter, electrical engineer, operator representative) need to be available, if possible on site, or at least per telephone</p> <p style="text-align: right;">1, all-inclusive _____ €</p>		

Figure 686 03 KHS-hygienic flushing unit

Technical properties	
Automatically triggered forced flushing in CDW/WDW system for installation in wet construction or pre-wall systems	
For connection to the KHS-Logic control system	
Max. volume flow 0.12 l/s pressure independent	
Usable from 0 - 70 °C at 0.5 - 10 bar	
Link to BMS feasible	
Adjustment and interrogation facility via KHS-Service-Handy	
Adjustable flushing intervals	
Operating mode can be changed via KHS-Clean-Handy or directly on the control unit	
Odour trap (d=50 mm)	
With integrated solenoid valve/s and filter screen/s	
Power supply 230 V	
Operating voltage 12 V DC	
SVGW approval with soundproofing, (Cl.1 according to ISO 3822)	

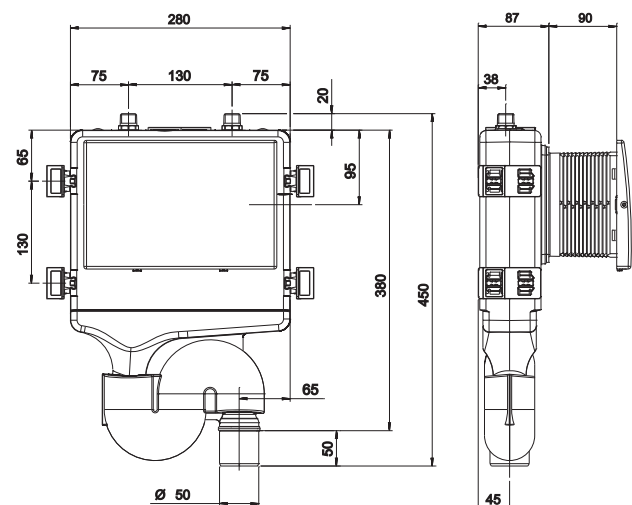


686 03 001 KHS-hygienic flushing unit for CDW
686 03 002 KHS-hygienic flushing unit for CDW and WDW

Product description / Tender text	
<p>KEMPER KHS-hygienic flushing unit, for securing operation as intended through automatically triggered forced flushing in drinking water systems, for installation in sanitary blocks or pre-wall systems, connection to the KHS-Logic control system feasible, max. volume flow 0.12 l/s, integration into planning software possible, application from 0 - 70 °C at 0.5 - 10 bar, RS485 interface for linking to the BMS with optional cable set feasible, adjustment and interrogation facility via KHS-Service-Handy, adjustable flushing intervals in Mode 1: 4 - 72 h (factory setting 48 h), Mode 2: 48 - 336 h (factory setting 168 h), flush duration 30 - 999 sec., visible function display for modes: on/off, flush interval, flush duration and fault display, operating mode can be changed through KHS-Clean-Handy or directly on control unit, with concealed housing (PE) and moulded odour trap (d=50 mm), pre-mounted ball valve 1/2", integrated solenoid valve and filter screen, shell construction set, power supply, building protection, mounting set, cover plate in chromium steel, rated voltage 230 V AC, operating voltage 12 V DC, SVGW approval with soundproofing (Cl.1 according to ISO 3822),</p>	
<p>Figure 686 03 001 with a ball valve/solenoid valve for cold drinking water Figure 686 03 002 with two ball valves/solenoid valves for cold and warm drinking water Ball valve/ball valves with exterior thread connection DN 15 (R1/2")</p>	

Optionally available accessories	
KHS Service Handy (required for commissioning)	686 03 003
KHS-Clean-Handy	686 03 005
KHS cable set	686 03 004

Materials	
Housing	Plastic
Mounting set	Plastic
Cover plate	Chromium steel
Connections	Brass



Technical information
<p data-bbox="147 353 362 383">Area of application</p> <p data-bbox="147 383 834 413">The KHS hygiene flushing unit can be installed in the brick or front wall.</p> <p data-bbox="147 443 1430 500">It is particularly suitable for Geberit DIS or Duofix installation systems, as well as solid wall installation. It can be installed in serial and closed circular pipeline systems.</p> <p data-bbox="147 530 1451 617">The cold potable water hygiene flushing unit is recommended in connection with KHS flow splitters in the cold potable water of objects with forced flow-through extending into the floor. Any upstream installation water contained in the closed circular pipelines will hence be agitated via flow splitters.</p> <p data-bbox="147 647 1459 704">The KHS hygiene flushing unit can furthermore be applied in housing construction (vacant apartments). In this case the water stagnating after the water circulation unit is to be replaced / flushed out in the apartment area.</p> <p data-bbox="147 734 1430 851">If no closed circular pipelines can be installed, the KHS hygiene flushing unit is applicable for flushing individual supply lines, in which case it is installed at the end of the individual supply line. Based on the programmed intervals and flushing times, the calculated water volume can be flushed out in order to maintain the hygienic state of the drinking water in the individual supply line and the preceding potable water distribution system.</p> <p data-bbox="147 881 1252 911">The KHS service remote control Figure 686 03 003 is required to take the KHS hygiene flushing unit into operation.</p>

Product description / Tender text
KEMPER KHS-Service-Handy, to activate the adjustment and interrogation parameters in the KHS-hygienic flushing unit, remote control infrared controlled, delivery includes a case, 2 x 1.5 V LR03



686 03 003 KHS-Service-Handy

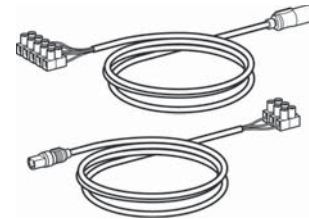
- Required to commission the KHS-hygienic flushing unit

Product description / Tender text
KEMPER KHS-Clean-Handy, to switch the Mode 1 flushing program to Mode 2



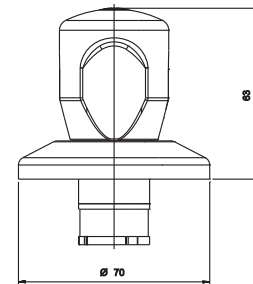
686 03 005 KHS-Clean-Handy

Product description / Tender text
KEMPER KHS cable set, for connecting the hygienic flushing to the KHS-Logic control system or the RS 485 interface to the building I&C system (BMS)



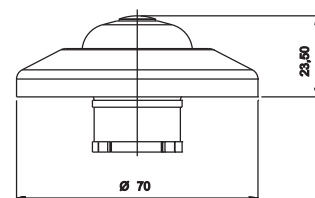
686 03 004 KHS cable set

Product description / Tender text
KEMPER Final Assembly Set Assembly kit 2 with handle unit for concealed Flow Stop Valves, complete with chrome plated operating handle made of ABS plastic, chrome plated push-on rosette and clamping unit for fastening in the plastic shaft in the concealed valves, with red and blue marking sheets, for VAV in flow distributor groups



590 00 025 Final Assembly Set Assembly kit 2 with handle unit

Product description / Tender text
KEMPER Final Assembly Set Assembly kit 2 as change stopper for concealed Maximum flow isolating ball valves, complete with chrome plated plugs, chrome plated push-on rosette and clamping unit for fastening in the plastic shaft in the concealed valves, with sockets for hex key activation SW 6 mm, with red and blue marking sheets, for VAV in flow distributor groups



591 00 025 Final Assembly Set Assembly kit 2 as change stopper

Figure 686 04 KHS-VAV Maximum flow isolating ball valve with servo drive, 230 Volt

Technical properties
Medium-contacting parts made of gunmetal
Removable head part 'Top Entry'
VAV DIN-/DVGW approved according to W 570 and DIN EN 13828
Pressure-impact free operation
Pressure stage PN 16
Simple maintenance when installed
Stagnant-zone-free
Connection as a 2-point controller
Supply voltage 230 V, Connection cable 1.2 m, 3 x 0.75 mm ²
Maintenance-free transmission
Perm. ambient temperature up to 55 °C
Protection class: IP54



686 04 KHS-VAV Maximum flow isolating ball valve with servo drive for KHS Timer, 230 Volts

Product description / Tender text
KEMPER KHS-VAV Maximum flow isolating ball valve with servo drive , consisting of:
Maximum flow isolating ball valve , compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, can be rotated 90°, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and
Servo drive , for controller with switching output, 2-point control, Supply voltage 230 V AC , Laufzeit 90° 30 sec., runtime 90° 30 sec., with synchronous motor and maintenance-free transmission, electronic final position detection and motor switch-off via a timer in the unit, with self-centring axis adapter and fixed flange for mounting on the valve, connection cable 1.2 m, 3 x 0.75 mm ²
both sides with male thread to universal connection to fittings for copper, steel, stainless steel and multilayer duplex tubes, from DN 15 (3/4") to DN 32 (1 1/2")

- For more information please see reverse side

Dimensions					
Nominal width	DN	15	20	25	32
Overall height (H1)	mm	135	135	140,5	146,5
Overall height (H2)	mm	110	110	112,5	115,5
Length (L1)	mm	68	73	88	93
Length (L2)	mm	89	89	89	89
Connection dimension (A1)		G 3/4	G 1	G 1 1/4	G 1 1/2
Bautiefe (T1)	mm	72	72	72	72
Durchmesser (d1)	mm	18	22,5	29	35

Materials	
Housing, interior head part	Gunmetal
Spindle	Gunmetal
Seal element	EPDM
Coupling	Brass
Drive housing	Self-extinguishing plastic
Axis adapter	Steel
Flange adapter	PA

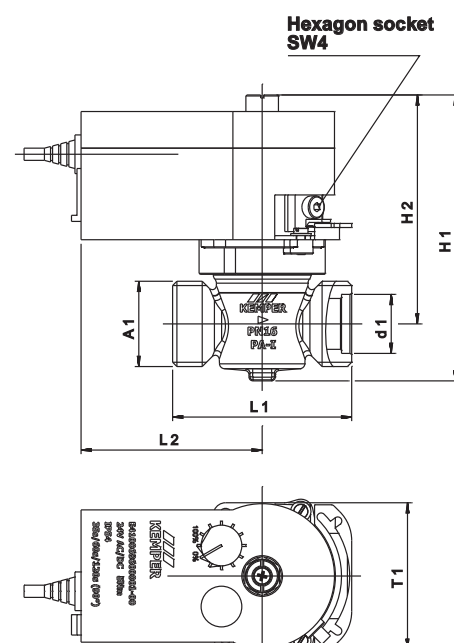
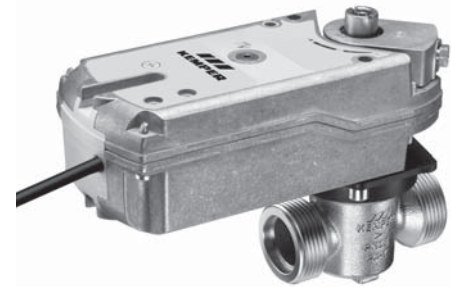


Figure 686 04 KHS-VAV Maximum flow isolating ball valve with servo drive, 230 Volt

Technical information
<p>Area of application</p> <ul style="list-style-type: none">- KHS-VAV for use in drinking water installations for the KEMPER Hygiene System.- Use as maintenance, stop and pressure limiting valve (in accordance with DIN 1988-2). - Triggers the valve via the BMS or with the KEMPER KHS timer set. <p>Maintenance</p> <ul style="list-style-type: none">- According to DIN 1988-1, the operator has to inspect annually.- Please refer to the installation and operating instructions for further information.

Figure 686 05 KHS-VAV-plus Maximum flow isolating ball valve with spring-reset servo drive, 230 Volts

Technical properties	
Medium-contacting parts made of gunmetal	
Removable head part 'Top Entry'	
VAV DIN-/DVGW approved according to W 570 and DIN EN 13828	
Pressure-impact free operation	
Pressure stage PN 16	
Simple maintenance when installed	
Stagnant-zone-free	
Connection as a 2-point controller	
Supply voltage 230 V, Connection cable 1.2 m, 2 x 0.75 mm ²	
maintenance-free transmission	
Perm. ambient temperature up to 55 °C	
Protection class: IP54	
Valve closes automatically during voltage drops	

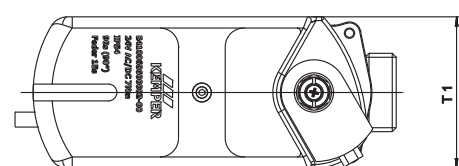
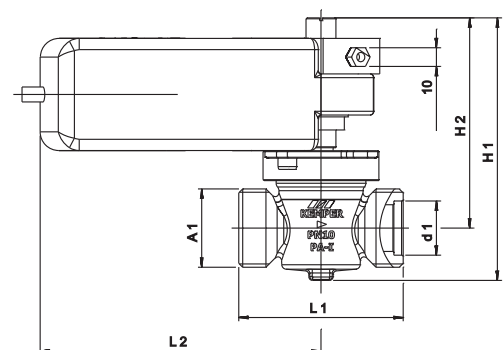


686 05 KHS-VAV plus Maximum flow isolating ball valve with spring-reset servo drive for KHS Timer, 230 Volts

Product description / Tender text	
KEMPER KHS-VAV Maximum flow isolating ball valve with spring-reset servo drive , consisting of:	
<p>Maximum flow isolating ball valve, compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, can be rotated 90°, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and</p>	
<p>Servo drive, for controller with switching output 2-point control, supply voltage 230 V, runtime Motor 90° 90 sec., spring 15 sec., reset during voltage drop, electronic torque-dependent switch-off with self-centring lock lever and fixed flange for mounting on the valve, hexagonal spanner for manual adjustment or spring-lift, connection cable 0.9 m, 2 x 0.75 mm²,</p>	
<p>both sides with male thread for universal connection to fittings for copper, steel, stainless steel and multilayer duplex tubes, from DN 15 (3/4") to DN 32 (1 1/2")</p>	

- For more information please see reverse side

Dimensions					
Nominal width	DN	15	20	25	32
Overall height (H1)	mm	135	135	140,5	146,5
Overall height (H2)	mm	110	110	112,5	115,5
Length (L1)	mm	68	73	88	93
Length (L2)	mm	150,3	150,3	150,3	150,3
Connection dimension (A1)		G 3/4	G 1	G 1 1/4	G 1 1/2
Depth (T1)	mm	81	81	81	81
Diameter (d1)	mm	18	22,5	29	35



Materials	
Housing, interior head part	Gunmetal
Spindle	Gunmetal
Seal element	EPDM
Coupling	Brass
Drive housing	Light-metal casting
Axis adapter	Steel
Flange adapter	PA

Figure 686 05 KHS-VAV-plus Maximum flow isolating ball valve with spring-reset servo drive, 230 Volts

Technical information

Area of application

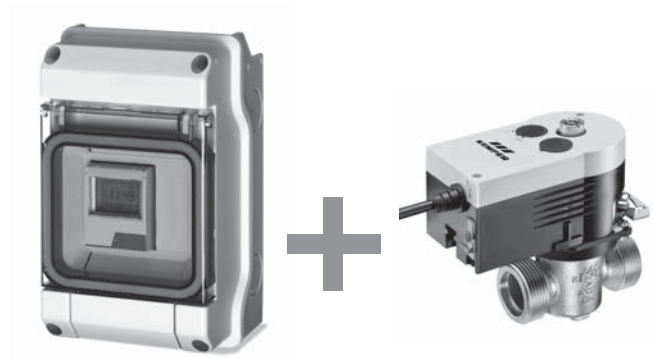
- Install the KHS-VAV-plus in drinking water installations for the KEMPER hygiene system to maintain the intended use in CDW and WDW operation and as a terminal flushing valve in stagnating drinking water lines.
- If power fails during flushing, the valve automatically closes (currentless closing).
- Triggers the valve via the BMS or with the KEMPER KHS timer set.

Maintenance

- According to DIN 1988-1, the operator has to inspect annually.
- Please refer to the installation and operating instructions for further information.

Figure 686 06 KHS Timer set
includes the timer and VAV with servo drive

Technical properties
Power supply 230 V
Switching capacity 16 (10) A/230-250 V
Internal consumption 6 VA (about 1 W)
32 memory locations, precise switching operations
Clock accuracy $\pm 1s/$ day at 23 °C
Ambient temperature range from -10 °C to + 45 °C
IP 65 enclosure protection
Flame resistant, self-extinguishing, halogen-free
VAV DIN-/DVGW approved according to W 570 and DIN EN 13828
parts that contact fluid made of gunmetal

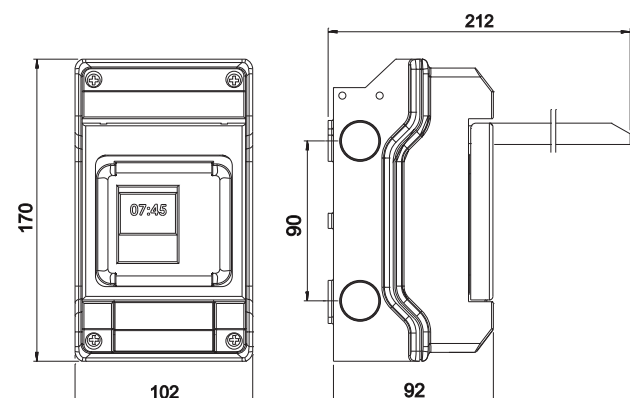


686 06 KHS Timer set with VAV with servo drive

Product description / Tender text
<p>KEMPER KHS Timer set, for time-controlled flushing of terminal or seldom-flooded pipeline sections, consisting of:</p> <p>Digital timer for triggering the servodrive for programming the desired flushing time and flushing duration on all weekdays, cyclic program, smallest switching time 1s, clock accuracy $\leq \pm 1s/day$ at 23 °C, On / Off switching operations, 32 memory locations programmable, operating temperature range -10 °C to +45 °C, 230 V AC, 45-60 Hz, switching capacity 16 A / 250 V, operational reserve 4 years without power, integrated in an automat housing, hinged with inspection glass, splashproof according to protection class IP 65, protection class II according to EN 60335, suitable for wall installation and</p> <p>Maximum flow isolating ball valve, extremely low-pressure loss version, compliant with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, can be rotated 90°, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and</p> <p>Servo drive, for controller with switching output, 2-point control. Supply voltage 230 V AC, runtime 90° 30 sec., with synchronous motor and maintenance-free transmission, electronic final position detection and motor switch-off via a timer in the unit, with self-centring axis adapter and fixed flange for mounting on the valve, connection cable 1.2 m, 3 x 0.75 mm²</p> <p>Maximum flow isolating ball valve with male thread according to DIN 3546, Part 1, for universal connection to fittings for copper, steel, stainless steel and multilayer duplex tubes, from DN 15 (3/4") to DN 32 (1 1/2")</p>

- For more information please see reverse side

Dimensions KHS-VAV Maximum flow isolating ball valve with servo drive, see datasheet Figure 686 04



Materials	
Housing timer	Plastic, flame resistant
VAV-housing, spindle	Gunmetal
Seal element	EPDM
Coupling	Brass
Drive housin	Self-extinguishing plastic
Axis adapter	Steel
Flange adapter	PA

Figure 686 06 KHS Timer set
includes the timer and VAV with servo drive

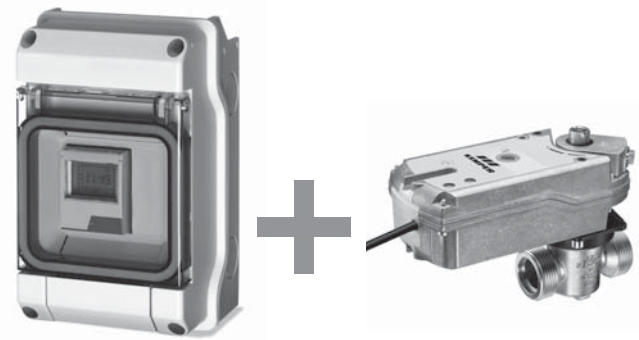
Technical information

Area of application

- The KHS-Timer set is available in combination with the KHS-VAV with servo drive (Figure 686 06 = Figure 686 04 + Figure 686 02 011) or the KHS-VAV plus Maximum flow isolating ball valve with servo drive and spring reset (Figure 686 07 = Figure 686 05 + 686 02 011).
- Application area is stagnating drinking water lines for stagnation prevention.
- Day or week programming with smallest switching time of 1 sec. can be set.
- Time timer has 32 programmable memory locations in blocks plus automatic switchover between daylight savings - standard time.

Figure 686 07 KHS Timer set
includes the timer and VAV-plus with spring-reset servo drive

Technical properties	
Power supply	230 V
Switching capacity	16 (10) A/230-250 V
Internal consumption	6 VA (about 1 W)
	32 memory locations, precise switching operations
	Clock accuracy $\pm 1\text{s/day}$ at 23 °C
	Ambient temperature range from -10 °C to + 45 °C
	IP 65 enclosure protection
	Flame resistant, self-extinguishing, halogen-free
	VAV DIN-/DVGW approved according to W 570 and DIN EN 13828
	parts that contact fluid made of gunmetal



686 07 KHS-Timer set with VAV
with spring-reset servo drive

Product description / Tender text	
KEMPER KHS Timer set , for time-controlled flushing of terminal or seldom-flooded pipeline sections, consisting of:	
<p>Digital timer for triggering the servodrive for programming the desired flushing time and flushing duration on all weekdays, cyclic program, smallest switching time 1s, clock accuracy $\leq \pm 1\text{s/day}$ at 23 °C, On / Off switching operations, 32 memory locations programmable, operating temperature range -10 °C to +45 °C, 230 V AC, 45-60 Hz, switching capacity 16 A / 250 V, operational reserve 4 years without power, integrated in an automat housing, hinged with inspection glass, splashproof according to protection class IP 65, protection class II according to EN 60335, suitable for wall installation and</p>	
<p>Maximum flow isolating ball valve, extremely low-pressure loss version with DIN EN 13828 corresponds to the drinking water hygiene requirements according to DVGW W 570, made entirely from gunmetal, resistant against aggressive water, brass-free in areas that touch fluids, with maintenance-free spindle sealing, 'Top Entry' head part can be removed from top, made with EPDM gasket body with rotating-supported gunmetal closing body, stagnant-zone-free, can be rotated 90°, with DIN/DVGW and soundproofing certificate, rated pressure PN 16 and</p>	
<p>Servo drive, for controller with switching output 2-point control, supply voltage 230 V, runtime motor 90° 90 sec., spring 15 sec., reset during voltage drop, electronic torque-dependent switch off with self-centring lock lever and fixed flange for mounting on the valve, hexagonal spanner for manual adjustment or spring-lift, connection cable 0.9 m, 2 x 0.75 mm²,</p>	
<p>Maximum flow isolating ball valve with male thread according to DIN 3546, Part 1, for universal connection to fittings for copper, steel, stainless steel and multilayer duplex tubes, from DN 15 (3/4") to DN 32 (1 1/2")</p>	

- For more information please see reverse side

Dimensions KHS-VAV Maximum flow isolating ball valve with spring-reset servo drive, see datasheet Figure 686 05

Materials	
Housing timer	Plastic, flame resistant
VAV-housing, spindle	Gunmetal
Seal element	EPDM
Coupling	Brass
Drive housing	Light-metal casting
Axis adapter	Steel
Flange adapter	PA

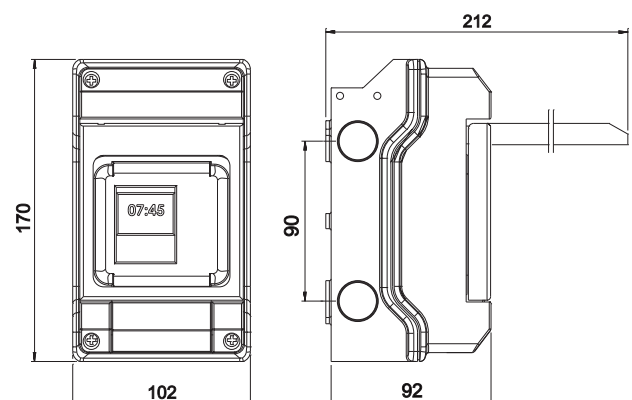


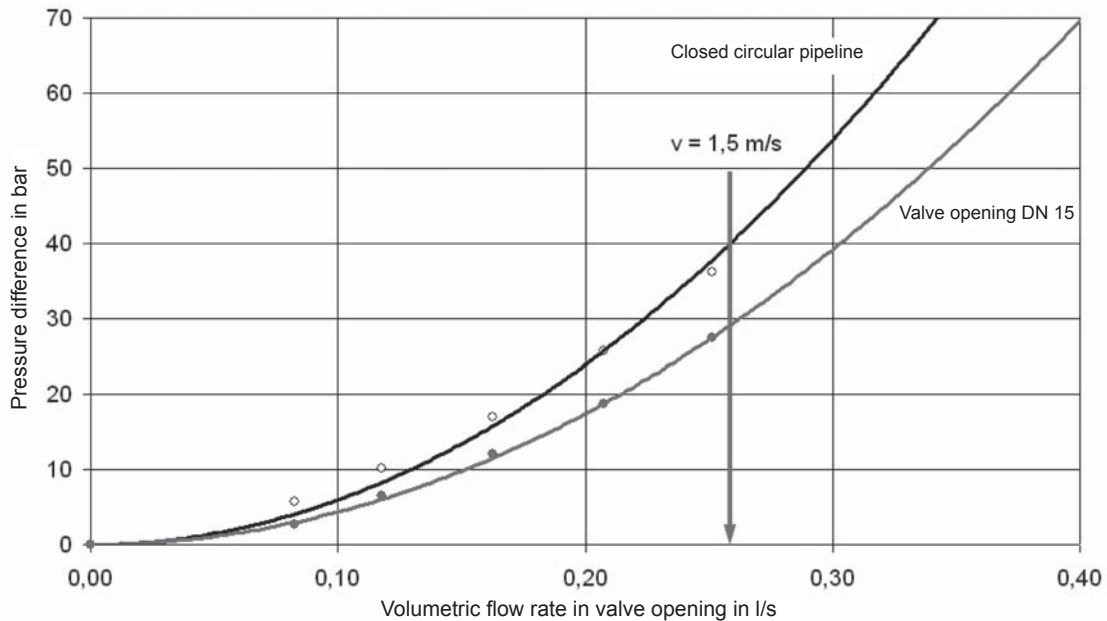
Figure 686 07 KHS Timer set
includes the timer and VAV-plus with spring-reset servo drive

Technical information

Area of application

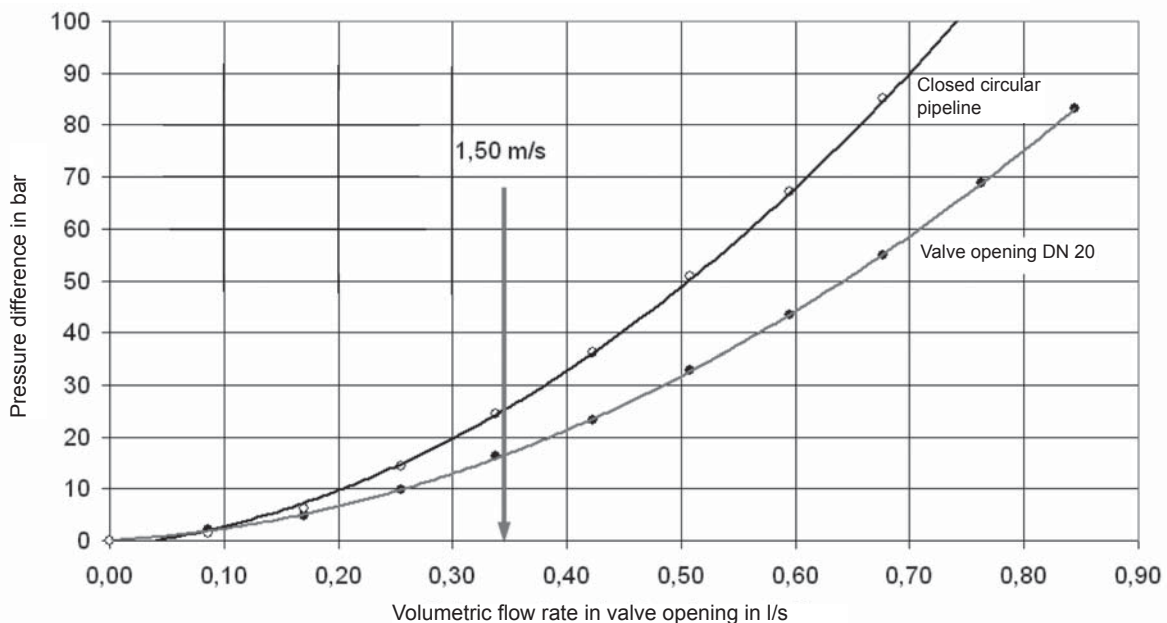
- The KHS-Timer set is available in combination with the KHS-VAV with servo drive (Figure 686 06 = Figure 686 04 + Figure 686 02 011) or the KHS-VAV plus Maximum flow isolating ball valve with servo drive and spring reset (Figure 686 07 = Figure 686 05 + 686 02 011).
- Application area is stagnating drinking water lines for stagnation prevention.
- Day or week programming with smallest switching time of 1 sec. can be set.
- Time timer has 32 programmable memory locations in blocks plus automatic switchover between daylight savings - standard time.

Pressure drop curve for KHS flow splitters DN 15, Figure 640...



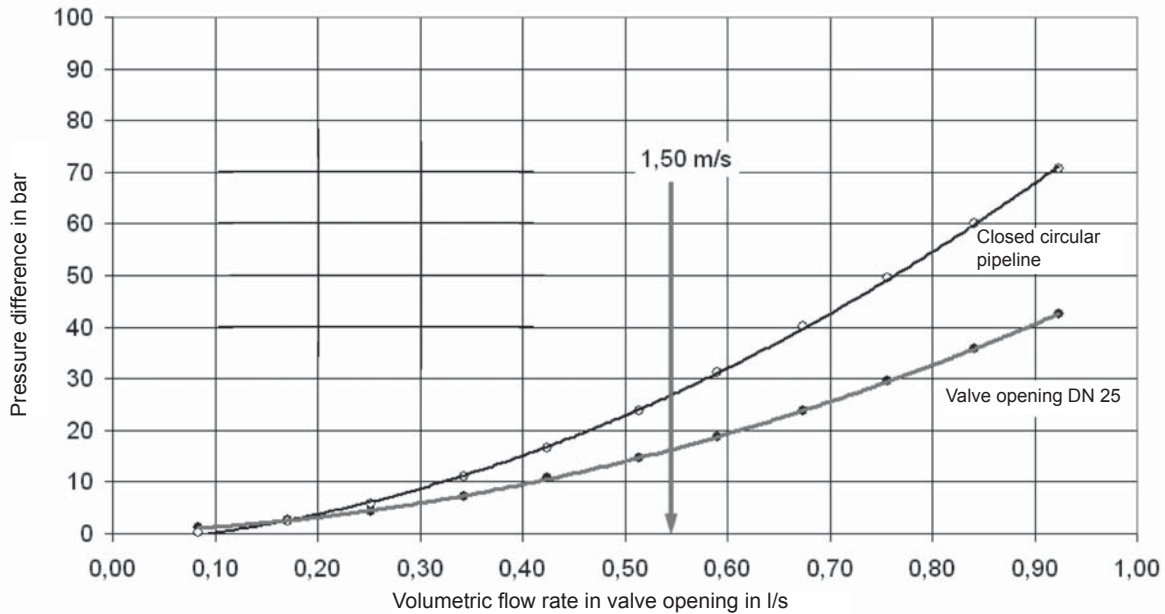
Note: If you wish to ensure the perfect and faultless functioning of the drinking water installation with the KHS system, we recommend using the KEMPER Dendrit planning software for the flow splitter layout and calculation!
 No flow splitter may be planned or provided in the closed circular pipeline of a flow splitter ring as a matter of principle!
 The flow splitter DN may not exceed the throughput DN (DN of the connecting pipe before and after the flow splitter) as a matter of principle!

Pressure drop curve for KHS flow splitters DN 20, Figure 640...



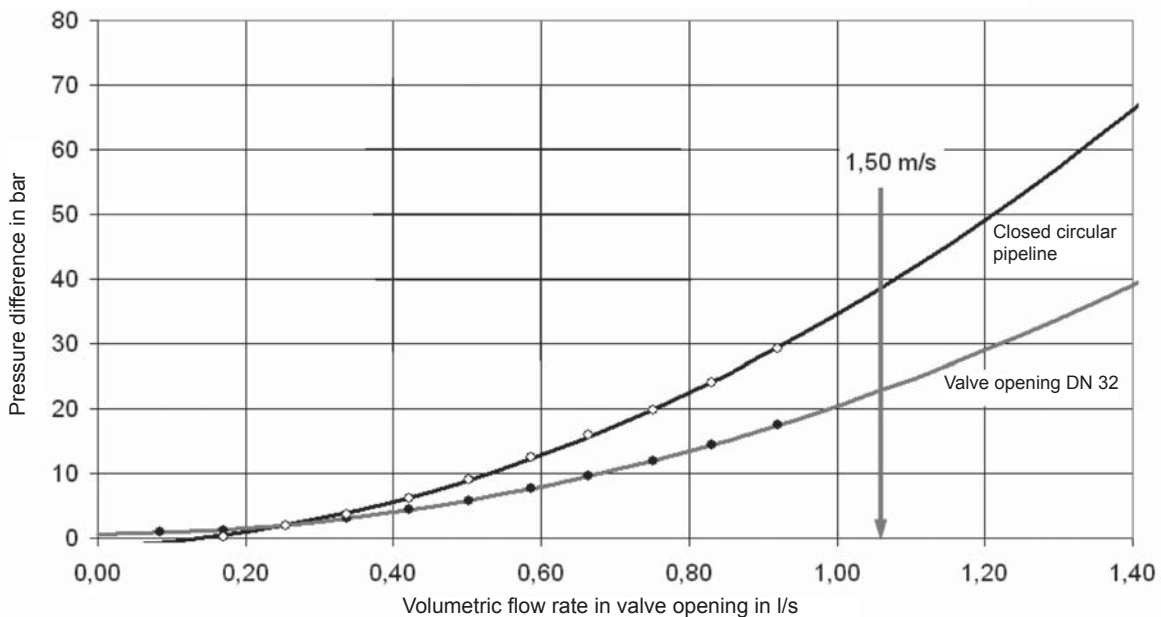
Note: If you wish to ensure the perfect and faultless functioning of the drinking water installation with the KHS system, we recommend using the KEMPER Dendrit planning software for the flow splitter layout and calculation!
 No flow splitter may be planned or provided in the closed circular pipeline of a flow splitter ring as a matter of principle!
 The flow splitter DN may not exceed the throughput DN (DN of the connecting pipe before and after the flow splitter) as a matter of principle!

Pressure drop curve for KHS flow splitters DN 25, Figure 640...



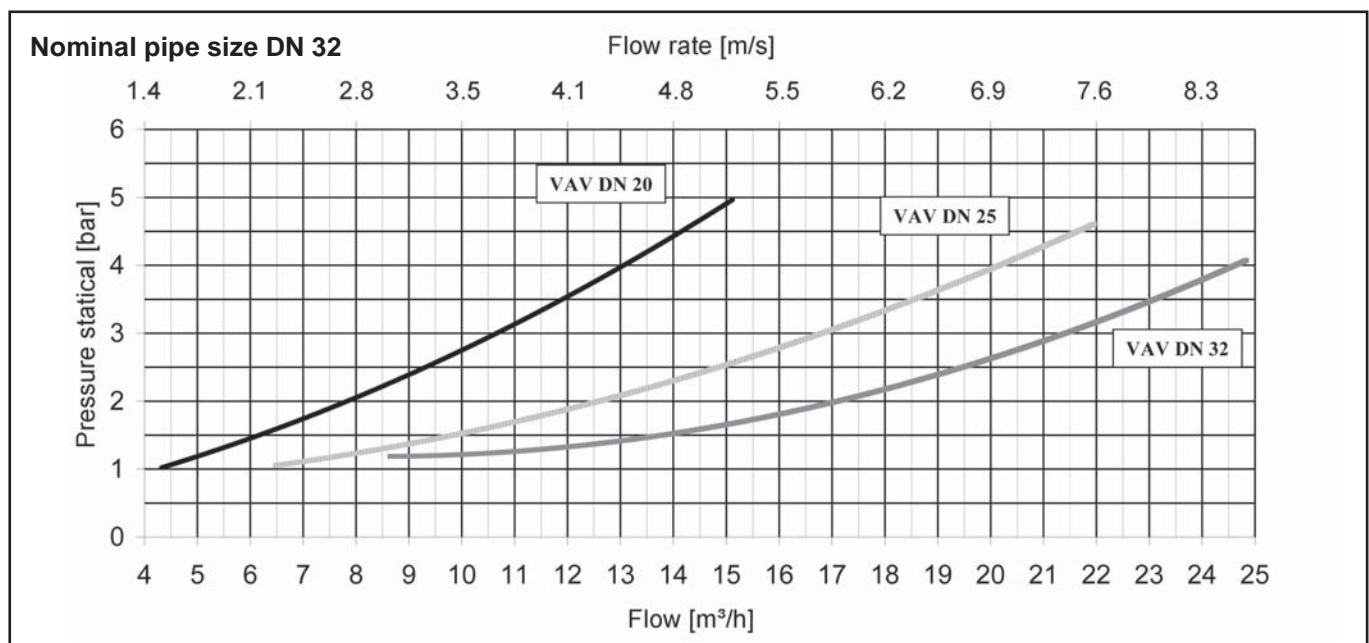
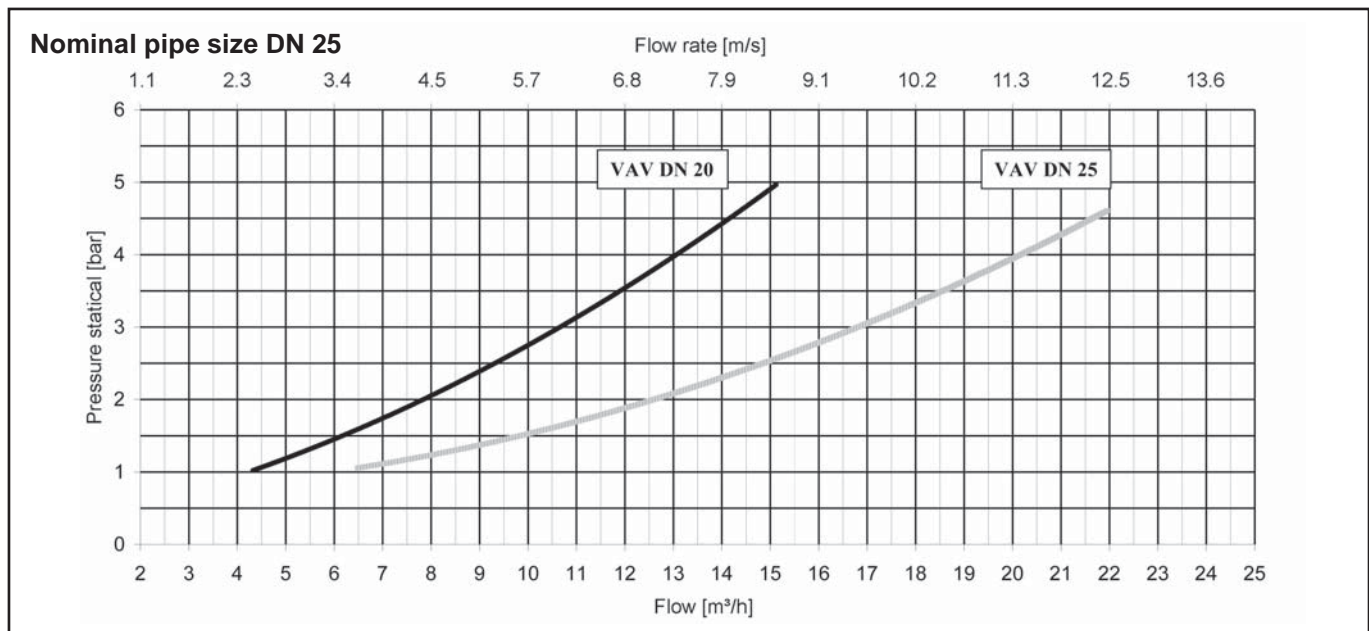
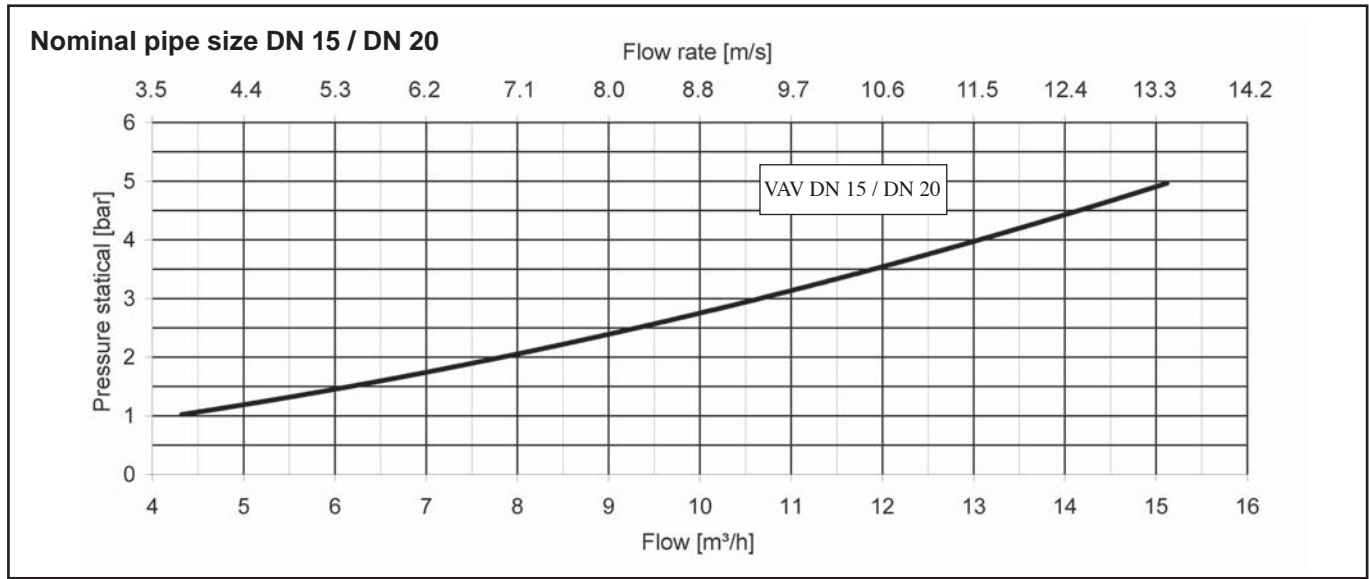
Note: If you wish to ensure the perfect and faultless functioning of the drinking water installation with the KHS system, we recommend using the KEMPER Dendrit planning software for the flow splitter layout and calculation!
 No flow splitter may be planned or provided in the closed circular pipeline of a flow splitter ring as a matter of principle!
 The flow splitter DN may not exceed the throughput DN (DN of the connecting pipe before and after the flow splitter) as a matter of principle!

Pressure drop curve for KHS flow splitters DN 32, Figure 640...

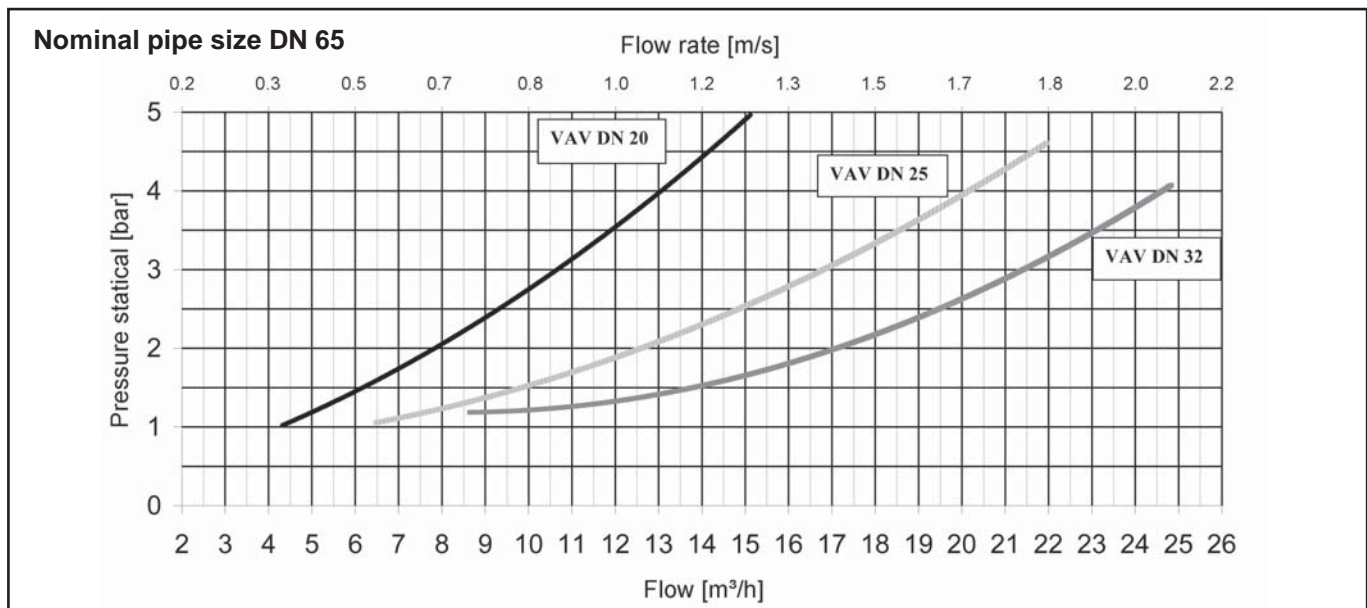
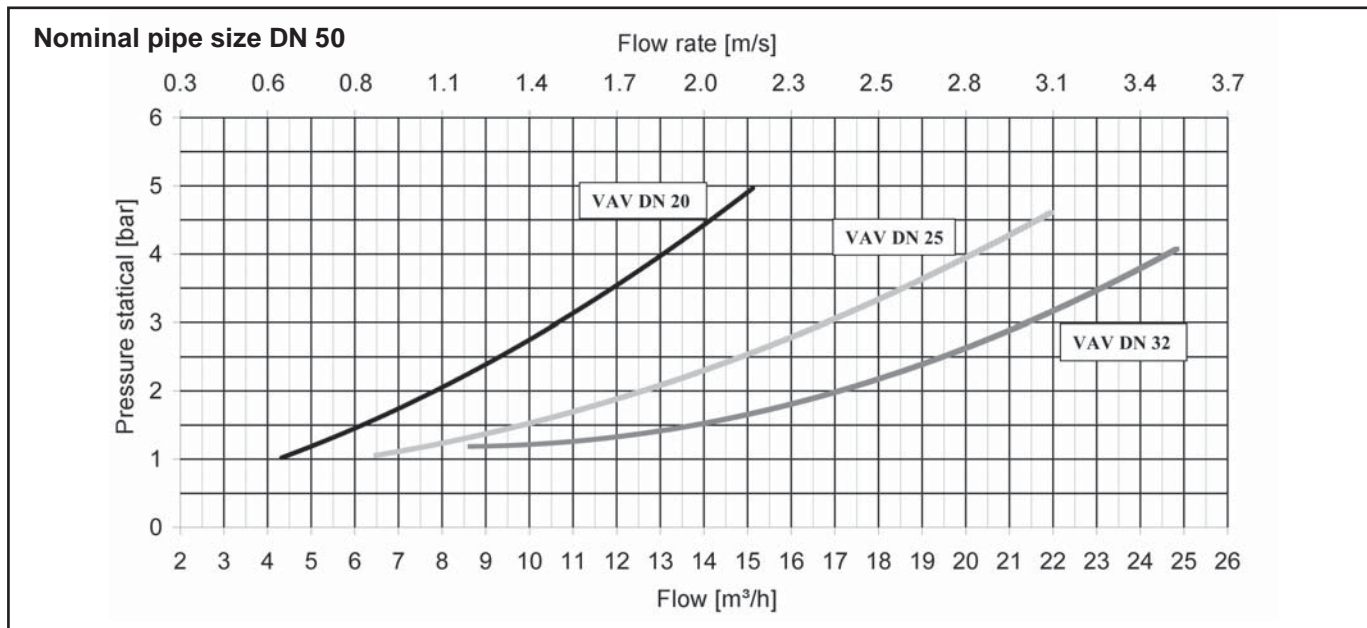
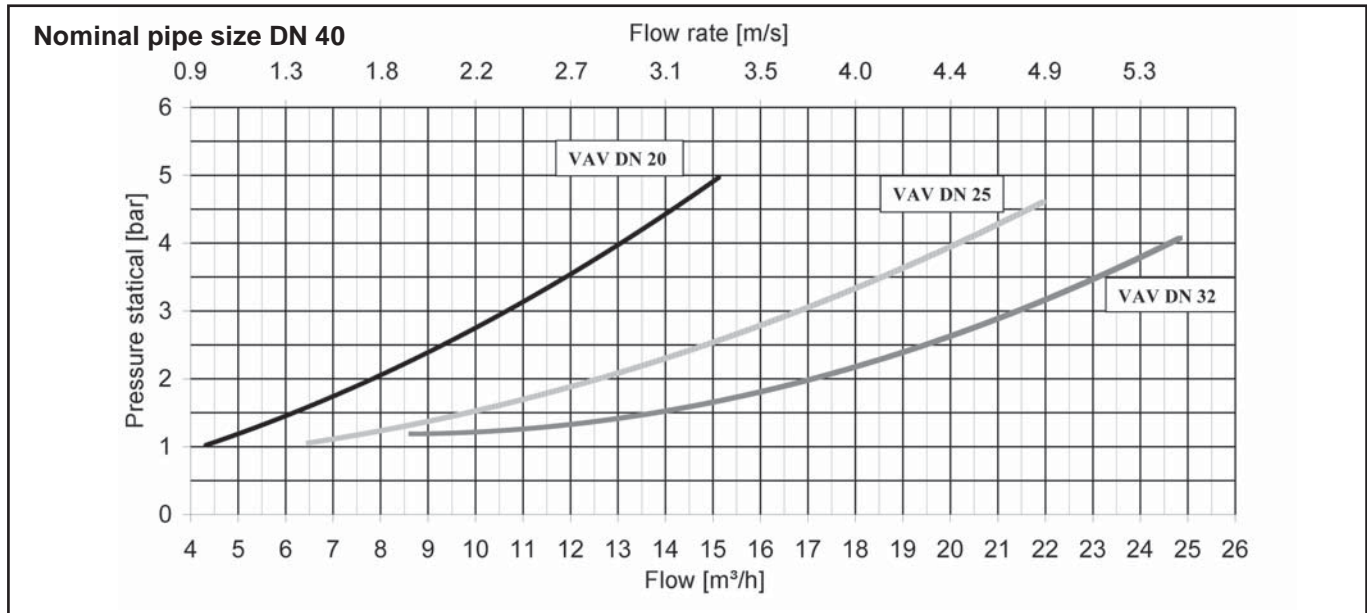


Note: If you wish to ensure the perfect and faultless functioning of the drinking water installation with the KHS system, we recommend using the KEMPER Dendrit planning software for the flow splitter layout and calculation!
 No flow splitter may be planned or provided in the closed circular pipeline of a flow splitter ring as a matter of principle!
 The flow splitter DN may not exceed the throughput DN (DN of the connecting pipe before and after the flow splitter) as a matter of principle!

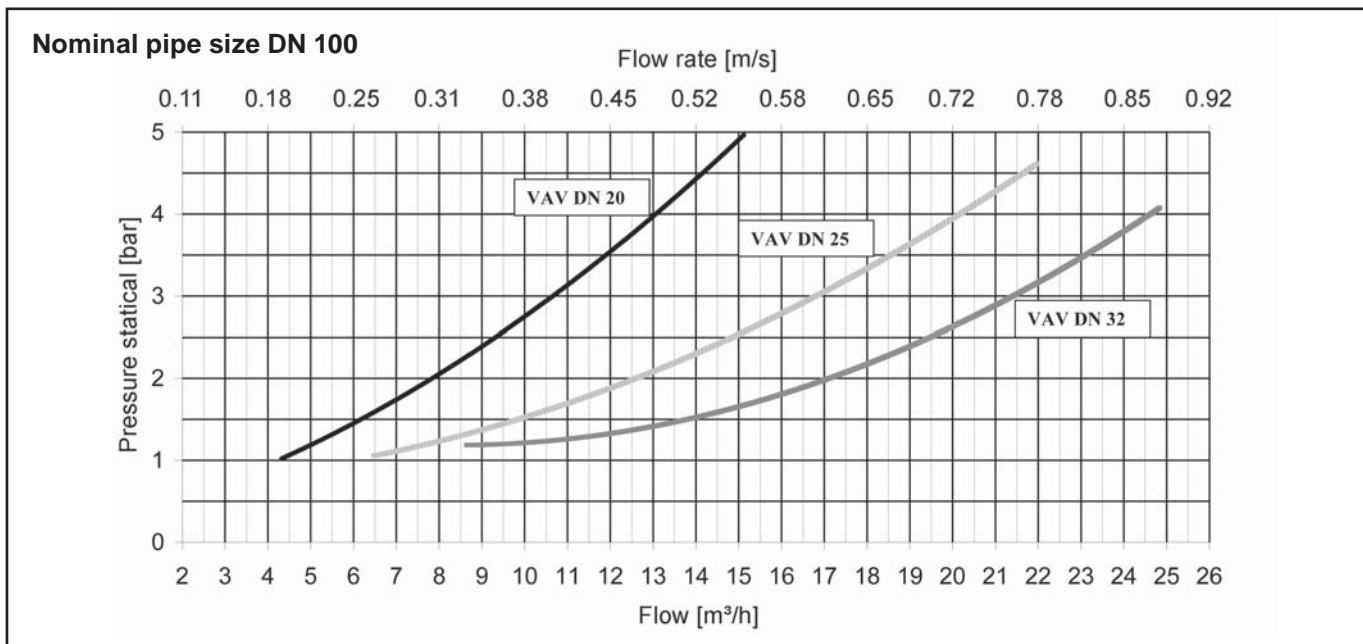
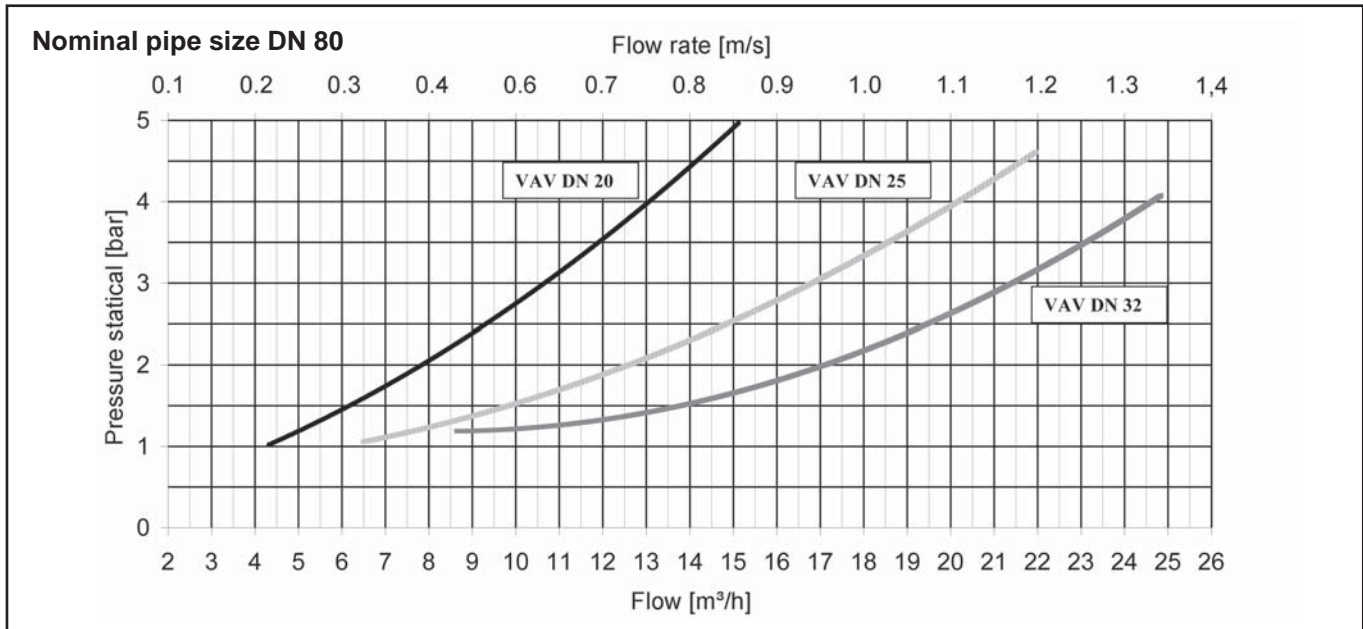
Drain rate KHS-VAV Figure 686 00, 686 04, 686 06 and
KHS-VAV-plus Figure 686 01, 686 05, 686 07

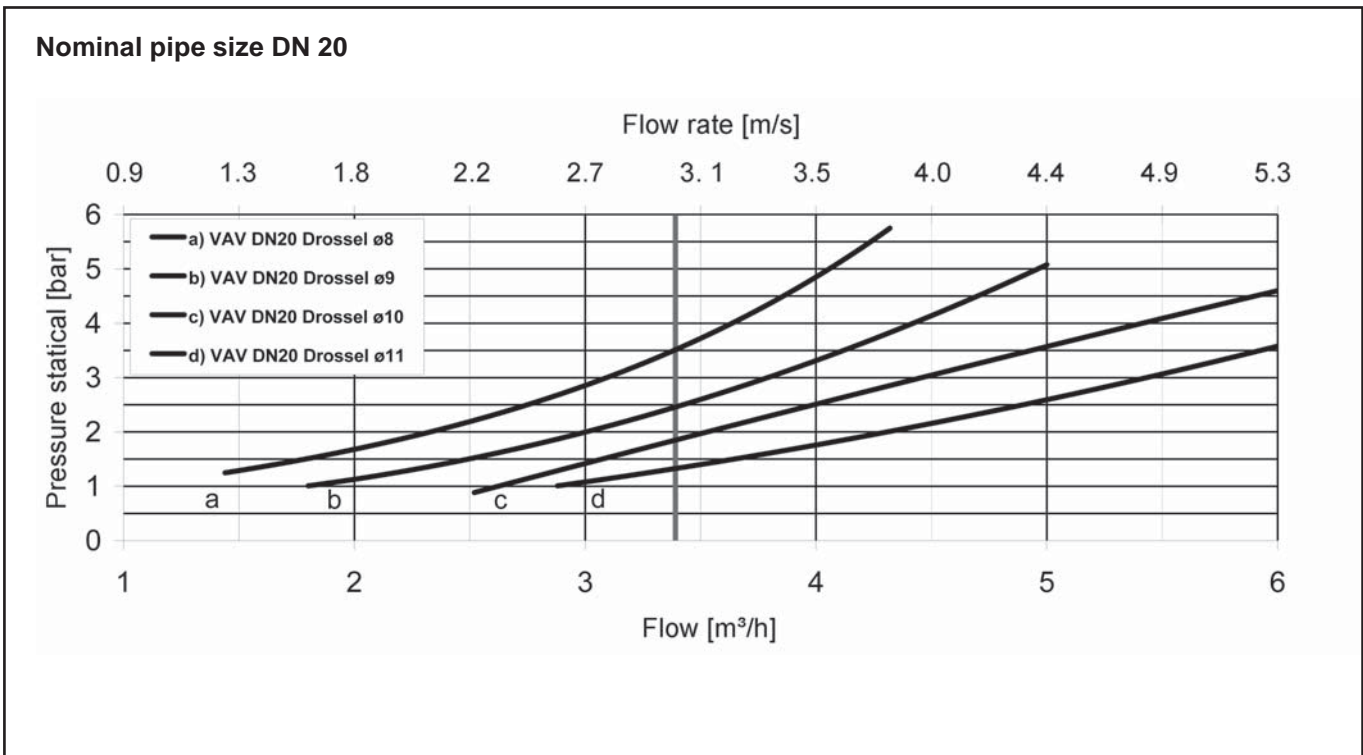
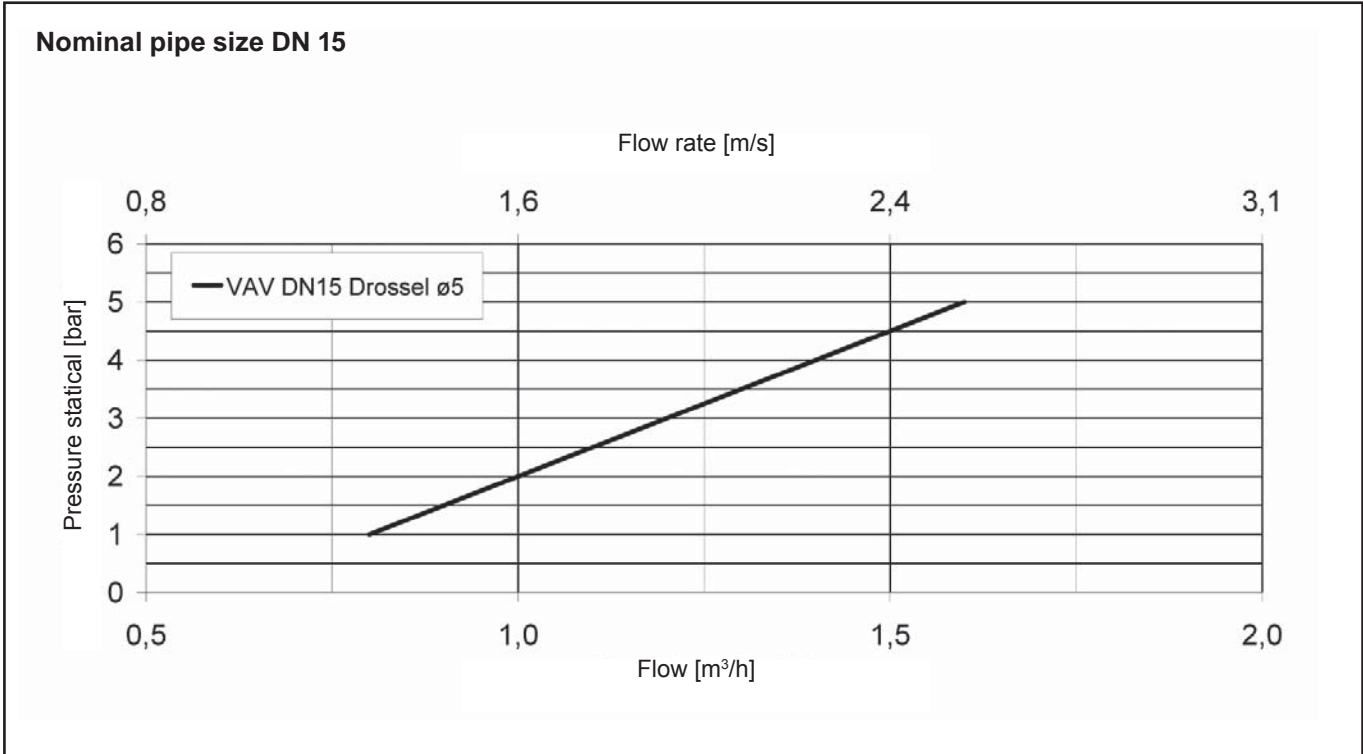


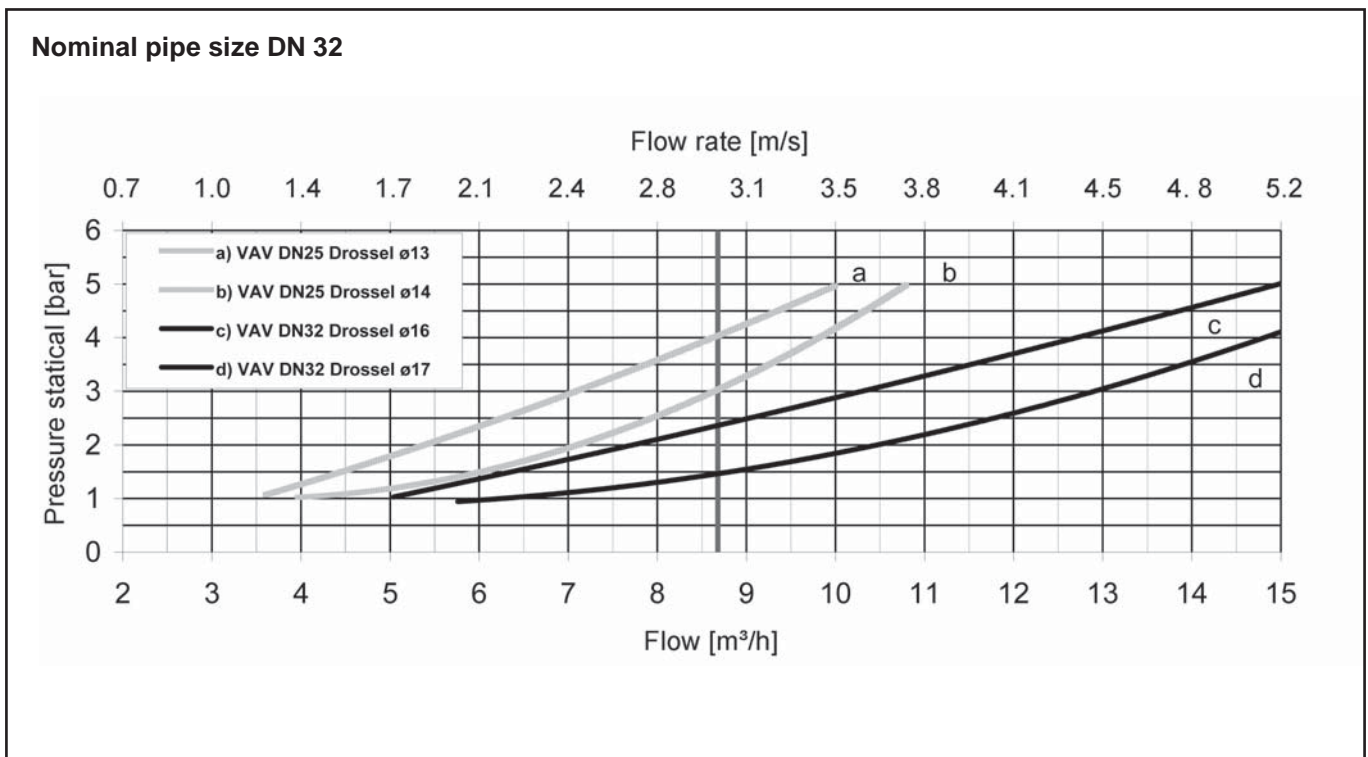
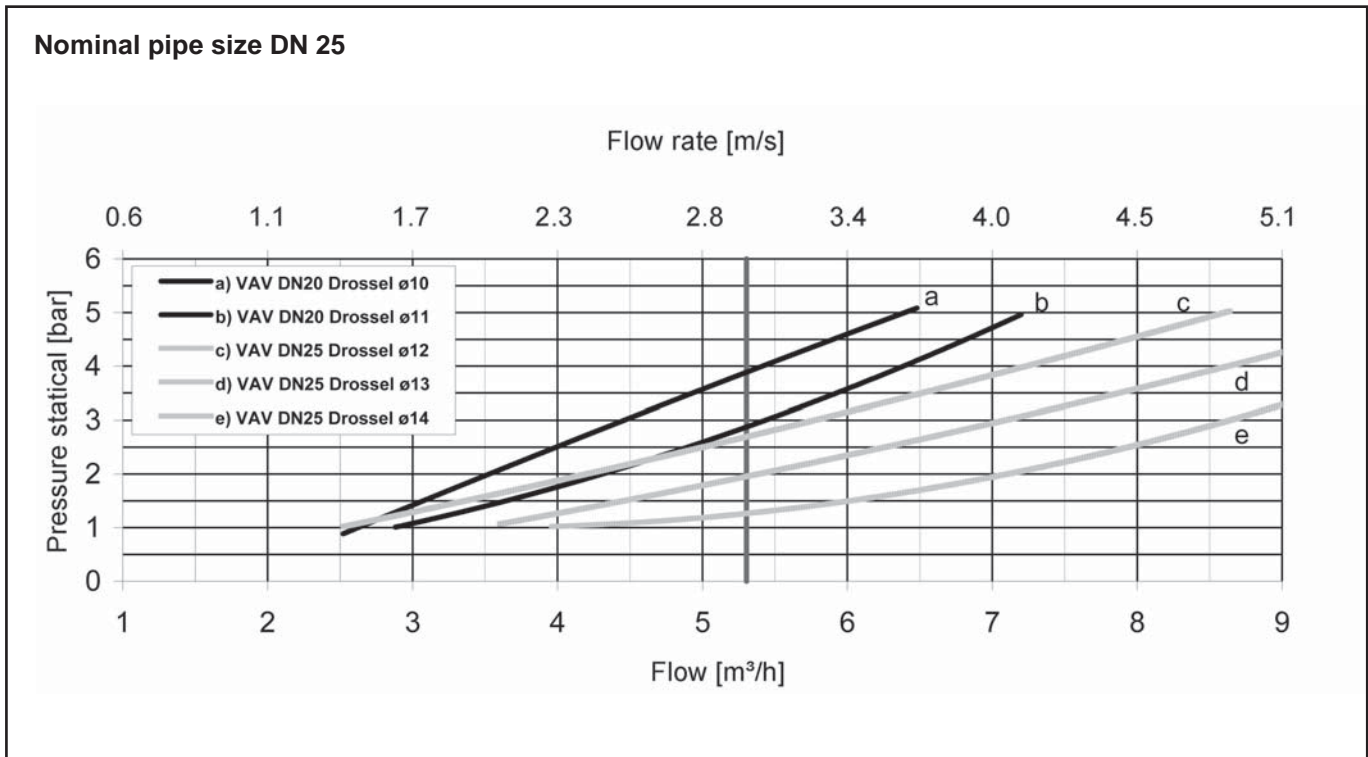
Drain rate KHS-VAV Figure 686 00, 686 04, 686 06 and
KHS-VAV-plus Figure 686 01, 686 05, 686 07



Drain rate KHS-VAV Figure 686 00, 686 04, 686 06 and
KHS-VAV-plus Figure 686 01, 686 05, 686 07









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