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Operation & Maintenance Instructions

Read these operation and maintenance instructions before start up!
To be held for future reference.

General

Injection fittings are used to inject the chemical delivered by the metering pump into the system to be treated.

Injection Pipe

The injection pipe (I) allows the metering chemical to be injected into the centre of the piping system, to ensure uniform mixing.

Non-Return Valve

The non-return valve (R) prevents liquid from flowing backward from the system under pressure into the metering plant or metering tank. All sizes are available in the form of a single-ball non-return valve with an opening pressure of approx. 0.1 bar. Special types with an opening pressure of approx. 1.2 bar are also available.

Shutoff Valve

A shut-off valve (A) allows to separate the metering installation, including the non-return valve, from the plant under pressure. Due to the shut-off valve the non-return valve can be maintained after being separated from the system. Prior to longer periods of standstill it should be closed since the sealing of the non-return valve may be affected by dirt particles or wear.

Cooling Pipe

In mixed assemblies, where the metering plant fittings and pipes are of plastic and the plant itself is of steel or other metals, because the liquid temperatures are higher, a cooling pipe (K) can be used to radiate the heat. This allows plastic fittings and pipes to be connected to the plant.

Connections

The transition from the injection fitting to the metering pipe can be made in various ways, using the connections listed on MB 1 23 01 / 4. The individual elements described before are available in functional combinations and have appropriate type codes for identification.

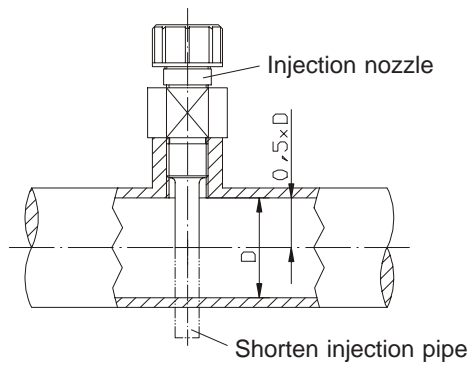
**Selection Criteria**

The determining factors for selecting the appropriate injection fitting are the chemical flow, the chemical resistance and the heat resistance. PVC injection fittings may be used for temperatures of up to 40°C; other types up to 80°C; and with a cooling pipe up to 120°C.

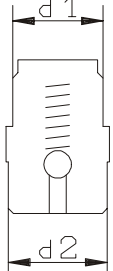
PVC-version: $p_{\max} = 10$ bar

Stainless steel version:

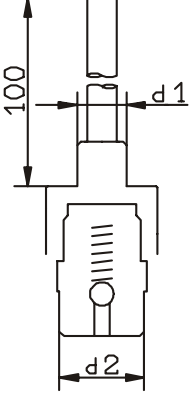
Normal version: $p_{\max} = 40$ bar



Type R (Non-Return Valve)

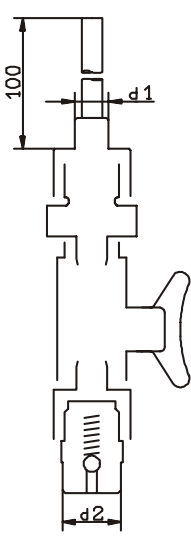
	DN	l/h*	d1	d2	PVC		1.4571		
					Viton	Hypalon	PTFE	AF/ Viton	Hypalon
					4	70	G 1/2	G 5/8	12325087
6	150	G 3/4	G 1	12325694	12326859	-	12326860	-	
10	400	G 1 1/4	G 1 1/4	12325707	12326845	-	12329696	-	
15	900	G 1	G 1 1/4	12325719	12326861	-	-	12326862	
25	2600	G 1 1/2	G 1 1/2	12325732	12326863	-	-	12626864	

Type IR (Injection Fitting with Non-Return Valve)

	DN	l/h*	d1	d2	PVC		1.4571		
					Viton	Hypalon	PTFE	AF/ Viton	Hypalon
					4	70	G 1/4	G 5/8	12325744
G 1/2	12325692	12334942	12326925	-			-		
G 3/4	12325747	12335300	12326926	-			-		
6	150	G 1/2	G 1	12325779	12326865	-	12326868	-	
		G 3/4		12325703	12326866	-	12326869	-	
		G 1		12325780	12326867	-	12326870	-	
10	400	G 1	G 1 1/4	12325792	12326877	-	12326880	-	
		G 1 1/4		12325711	12326878	-	12326881	-	
		G 1 1/2		12325793	12326879	-	12326882	-	
15	900	G 1	G 1 1/4	12325883	12326891	-	-	12326894	
		G 1 1/2		12325814	12326892	-	-	12326895	
		G 2		12325723	12326893	-	-	12326896	
25	2600	G 1 1/2	G 1 1/2	12325880	12326907	-	-	12326909	
		G 2		12325737	12326908	-	-	12326910	

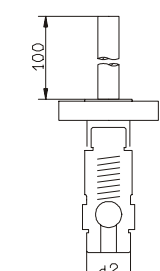
* Flow values only valid with uniform flow. Without pulsation dampener the max. flow rate for motor pumps amounts to 1/3 and for solenoid pumps to 1/5 of the indicated value.

Type IRA (Injection Fitting with Non-Return Valve and Shutoff Valve)



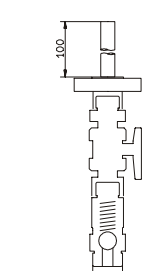
DN	l/h*	d1	d2	PVC		1.4571		
				Viton	Hypalon	PTFE	AF/ Viton	Hypalon
4	70	G 1/4	G 5/8	12325748	12335301	12326930	-	-
		G 1/2		12325691	12335302	12326931	-	-
		G 3/4		12325749	12335303	12326932	-	-
6	150	G 1/2	G 1	12325781	12326871	-	12326874	-
		G 3/4		12325704	12326872	-	12326875	-
		G 1		12325782	12326873	-	12326876	-
10	400	G 1	G 1 1/4	12325794	12326883	-	12326886	-
		G 1 1/4		12325714	12326884	-	12326887	-
		G 1 1/2		12325795	12326885	-	12326888	-
15	900	G 1	G 1 1/4	12325882	12326897	-	-	12326900
		G 1 1/2		12325815	12326898	-	-	12326901
		G 2		12325726	12326899	-	-	12326902
25	2600	G 1 1/2	G 1 1/2	12325876	12326911	-	-	12326913
		G 2		12325741	12326912	-	-	12326914

Type IRF (Injection Fitting with Non-Return Valve and Flange Connection)



DN	l/h*	d2	PVC		1.4571
			Viton	Hypalon	Hypalon
10	400	G 1 1/4	-	12327742	-
15	900	G 1 1/4	12325966	12326903	12326904
25	2600	G 1 1/2	12325969	12326915	12326916

Type IRAF (Injection Fitting with Non-Return Valve, Shutoff Valve and Flange Connection)



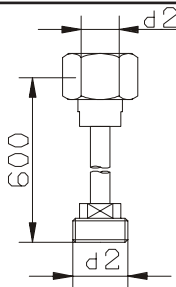
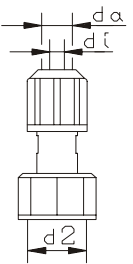
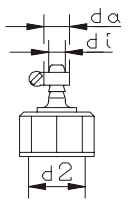
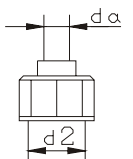
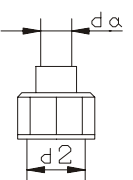
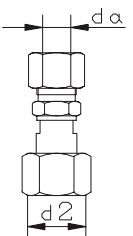
DN	l/h	d2	PVC		1.4571	
			Viton	Hypalon	AF/ Viton	Hypalon
10	400	G 1 1/4	12326313	12326889	12326890	-
15	900	G 1 1/4	12325967	12326905	-	12326906
25	2600	G 1 1/2	12325971	12326917	-	12326918

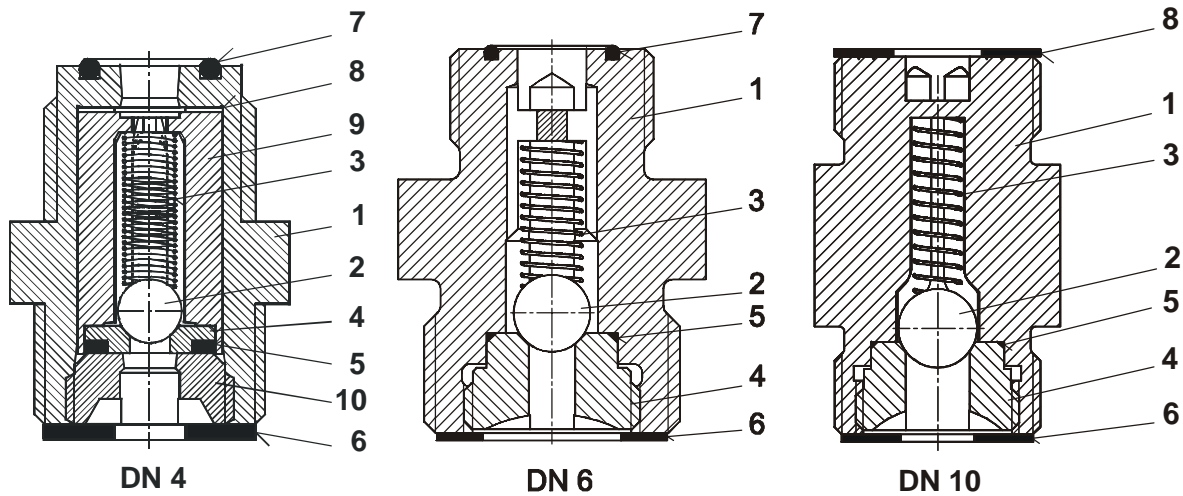
* Flow values only valid with uniform flow. Without pulsation dampener the max. flow rate for motor pumps amounts to 1/3 and for solenoid pumps to 1/5 of the indicated value.

Order Example:

An injection fitting with shutoff valve is required to be used with a MINIDOS A 24, for phosphate metering into a potable water pipe (max. 10 bar). A connection sleeve with G 1/2 is available. Supply line: tubing id=4; od=6. From the IRA table on this page, size DN 4 up to 50 l/h, with d₁=G 1/2 is chosen. PVC version, type IRA, consisting of injection pipe, shutoff valve and non-return valve. Part Number 12325691. From table Cooling Pipe (K) and Connections on MB 1 23 01 / 4, for a 4/6 tubing, the connection, Part Number 20975 is selected.

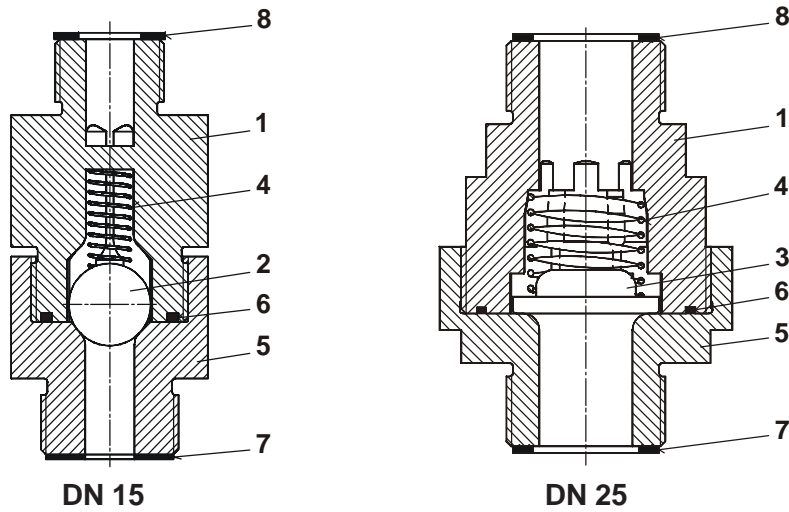
Cooling Pipe (K) and Connections

	DN	d2	di/da	da	PVC	1.4571
Cooling pipe 	4	G 5/8	-	-	-	25849
	6	G 1	-	-	-	25853
	10	G 1 1/4	-	-	-	25892
	15		-	-	-	25893
	25	G 1 1/2	-	-	-	25903
Tubing connection 	4	G 5/8	4/6	-	20975	-
			6/8	-	25176	-
			6/12	-	19180	-
	6	G 1	6/12	-	25902	-
Hose liner 	4	G 5/8	6/12	-	23092	23093
	6	G 1	6/12	-	25908	25909
			9/15	-	32470	-
	10	G 1 1/4	9/15	-	25921	25925
	15		16/26	-	25936	25935
	25	G 1 1/2	25/34	-	25947	25949
PVC cemented connection 	4	G 5/8	-	10	23087	-
			-	12	23089	-
	6	G 1	-	10	25911	-
			-	12	22137	-
	10	G 1 1/4	-	12	25923	-
15	-		20	25937	-	
25	G 1 1/2	-	32	25950	-	
Threaded connection 	4	G 5/8	-	G 1/4	23088	22999
	6	G 1	-	G 1/4	27259	25914
			-	G 3/8	25915	31096
	10	G 1 1/4	-	G 3/8	25930	27037
	15		-	G 1/2	25943	25944
	25	G 1 1/2	-	G 3/4	-	25953
-			G 1	-	27036	
Stainless steel piping connection 	4	G 5/8	-	6	-	24959
			-	10	-	23090
	6	G 1	-	8	-	25913
	10	G 1 1/4	-	12	-	27039
			-	18	-	25939
	25	G 1 1/2	-	22	-	25952
-			28	-	27035	



Injection fitting type R DN 4...10

Item	Description	Material	Part No. DN 4	Part No. DN 6	Part No. DN 10
1	Valve body	PVC	20845	25695	25706
		1.4571	19289	25764	25798
2	Valve ball	Glas	29778	-	82457
		Ceramic	-	10017	-
		1.4401	18044	10036	82114
3	Pressure spring	Hastelloy	25081	25082	32577
4	Valve seat	PVDF	81460	-	-
		PVC	-	25696	25796
		1.4571	81461	25763	25799
5	O-ring	Viton	80013	80734	80739
		EPDM	80755	80735	80738
		PTFE	80627	-	-
6	Gasket	Viton	81371	81276	81198
		EPDM	81453	-	-
		Hypalon	-	81238	81035
		AF	-	81627	81629
		PTFE	81677	-	-
7	O-ring	Viton	81384	80003	-
		EPDM	80754	80126	-
		PTFE	80617	-	-
	Gasket	AF	-	81521	-
8	Gasket	Viton	81526	-	81277
		EPDM	81525	-	-
		Hypalon	-	-	81239
		AF	-	-	81628
		PTFE	81585	-	-
9	Ball guide	PVC	24066	-	-
		1.4571	24067	-	-
10	Threaded plug	PVC	19299	-	-
		1.4571	24031	-	-
Injection fitting assembly PVC / Viton			12325087	12325694	12325707
Injection fitting assembly PVC / Hypalon			12335092	12326859	12326845
Injection fitting assembly 1.4571 with gasket made of			12326920 PTFE	12326860 AF / Viton	12329696 AF / Viton



Injection fitting type R DN 15 and DN 25

Item	Description	Material	Part No. DN 15	Part No. DN 25
1	Valve body	PVC	34823	35912
		1.4571	35892	35914
2	Valve ball	Glas	82460	-
		1.4401	24442	-
3	Valve disk	PVDF	-	34464
		1.4571	-	34467
4	Pressure spring	Hastelloy	28777	25217
5	Valve seat	PVC	25718	35913
		1.4571	25864	35915
6	O-ring	Viton	80800	80741
		EPDM	80791	80742
7	Gasket	Viton	81198	81391
		Hypalon	81529	81390
8	Gasket	Viton	81422	81391
		Hypalon	81491	81390
Injection fitting assembly PVC / Viton			12325719	12325732
Injection fitting assembly PVC / Hypalon			12326861	12326863
Injection fitting assembly 1.4571 / Hypalon			12326862	12326864

Warranty



Please copy and send with the device.

If the device breaks down within the period of warranty, please return it in a cleaned condition with the complete warranty application, filled out.

Sender

Company:..... Phone:..... Date:.....

Address:.....

Contact person:

Manufacturer order-no.: Delivery date:.....

Device type:..... Serial no.:.....

Nominal capacity/nominal pressure:

Description of fault:.....

.....

.....

Type of fault:

1. Mechanical fault

- premature wear
- wear parts
- breakage/other damage
- damage in transit

2. Electrical fault

- loose connections such as plug connector or cable
- operating elements (e.g.. switches/buttons)
- electronics - corrosion

3. Leaks

- connections
- dosing head

4. No or inadequate function

- defective diaphragm
- other

Service conditions of the device

Point of use / system designation:.....

Accessories used (Suction line, etc.):.....

.....

.....

Commissioning (date):.....

Duty peroid (approx. operating hours):.....

Please describe the specifics of the installation and provide a simple diagram with details of the material, diameter, length and levels.

