

RMA coupling components
Multi-Connections MCS / MA

Technical data sheet



RMA coupling components

for automatic multi-connections MCS / MA

- Nominal diameter 03, 06, 08, 11 and 19 mm
- single, double shut-off or unvalved

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Technical data

	RMA 03	RMA 06	RMA 08	RMA 11	RMA 19
Nominal diameter (mm)					
Single shut-off or unvalved	3	5,5	8	11	19
Double shut-off	2,5	4,6	7,2	10,2	18
Max. working pressures (bar)					
Standard	50 / 16 *	50 / 16 *	50 / 16 *	50 / 16 *	50 / 16 *
IA	50 / 16 *	50 / 16 *	50 / 16 *	50 / 16 *	50 / 16 *
IA / HPL	400	450	400	350	300
IA / W	10 ⁻³ torr	10 ⁻³ torr	10 ⁻³ torr	10 ⁻³ torr	10 ⁻³ torr
Connecting force without pressure (N)					
Single shut-off	26	39	58	75	177
Double shut-off	28	60	70	80	180
Unvalved	11	13	21	29	47
Socket / plug repulsion cross section (cm ²)	0,196	0,44	0,95	1,54	4,15
Loss of fluid (water) for one disconnection under pressure 3 bar (cm ³)	0,10	0,63	1,85	3,87	16,50
Volume of air introduced at connection (OD version) (cm ³)	0,08	0,3	0,65	1,3	5,75

* Connection for rubber hose and installation with ear clamps or worm drive clamps.

Shut-off

■ Single

- > socket and plug: standard part-numbers
Example: socket **RMA 06.2101** + full flow plug **RMA 06.4101**

■ Double

- > socket: add the code /**OD** to the socket part-numbers - valved plug: standard part-numbers
The valved plugs must only be used with the OD-version sockets
Example: socket **RMA 06.2101/OD** + plug with shut-off **RMA 06.5101**

■ Unvalved

- > socket: add the code /**OS** to the part-number of the socket - full flow plug: standard part-numbers
Example: socket **RMA 06.2101/OS** + full flow plug **RMA 06.4101**

Construction

■ Standard version

- for compressed air applications
- > largely stainless steel with 17% chrome content
socket back adaptor: anti-corrosion treated steel

■ IA version

- for applications on gases, water, oils, hydrocarbons
- > largely stainless steel with 17% chrome content

■ IA / HPL version

- for high pressure applications on liquids
- > stainless steel with 17 % chrome content
internal components: stainless steel AISI 316 L

■ IA / W version

- for primary vacuum to 10^{-3} torr
- > stainless steel with 17 % chrome content
internal components: stainless steel AISI 316 L
unit test with helium

Tightness

■ Standard

- > **Nitrile (NBR)** seals
Operating temperatures: -15 to + 100 °C

■ Options

- > **Fluorocarbon (FPM)** seals: code **JV**
Operating temperatures: - 10 to + 200 °C
- > **Ethylene-Propylene (EPDM)** seals: code **JE**
Operating temperatures: - 20 to + 150 °C



Ethylene - Propylene seals (code **JE**) are not suitable for mineral oils, greases, fuels or hydrocarbons.

- > **Perfluoroelastomer (FFKM)** seals: code **JK**
Operating temperatures: 0 to + 250 °C
- > **Fluorosilicon (FMQ)** seals: code **JS3**
Operating temperatures: - 45 to + 175 °C
Max. working pressure: 50 bar
- > **Chloroprene (CR)** seals: code **JC**
Operating temperatures: - 40 to + 100 °C

Vacuum integrity for the IA / W version

Instantaneous values of the leak rates at 20 °C in connecting and disconnecting position: 1.10^{-3} N.cm³ / s

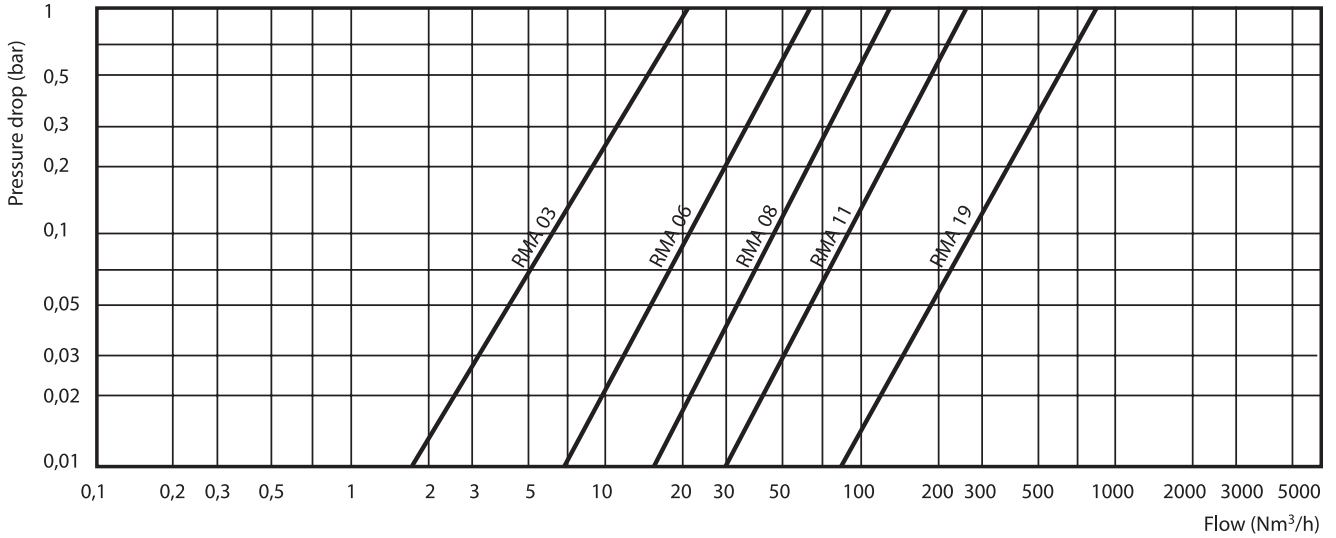
Recommended speed of connection

0,1 at 0,2 m / s.

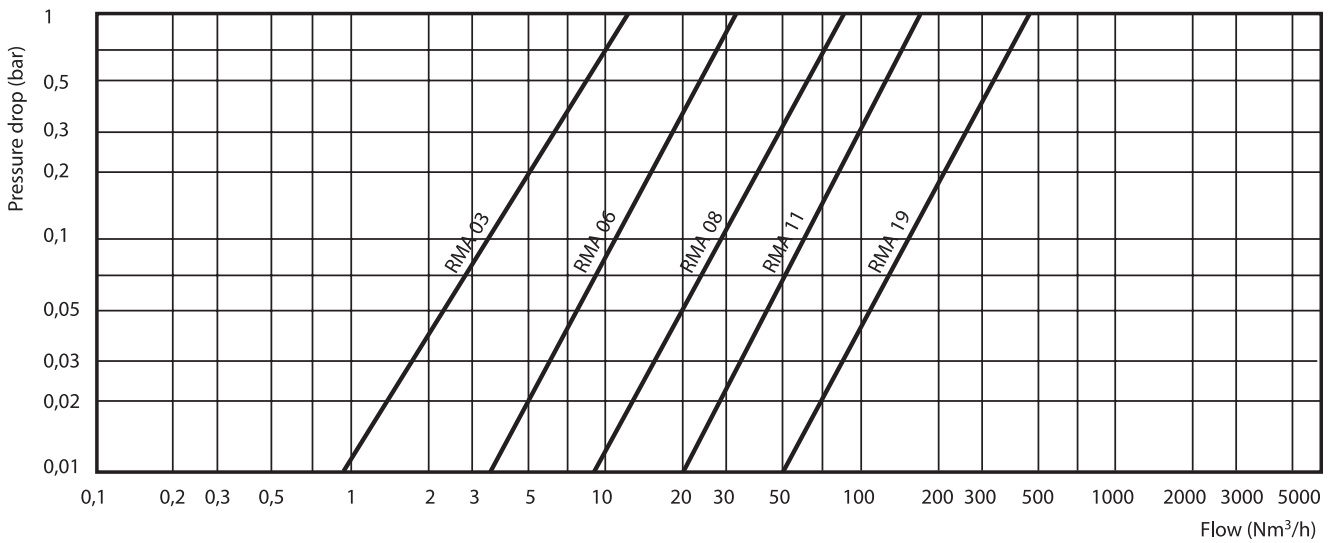
Pneumatic flow / pressure drop charts

	RMA 03	RMA 06	RMA 08	RMA 11	RMA 19
Pneumatic flow at 6 bar in Nm³/h for a pressure drop of 0,3 bar					
Single shut-off	11,2	32	72	150	430
Double shut-off	6,2	19	46	92	245
Unvalved	13	45	110	245	660

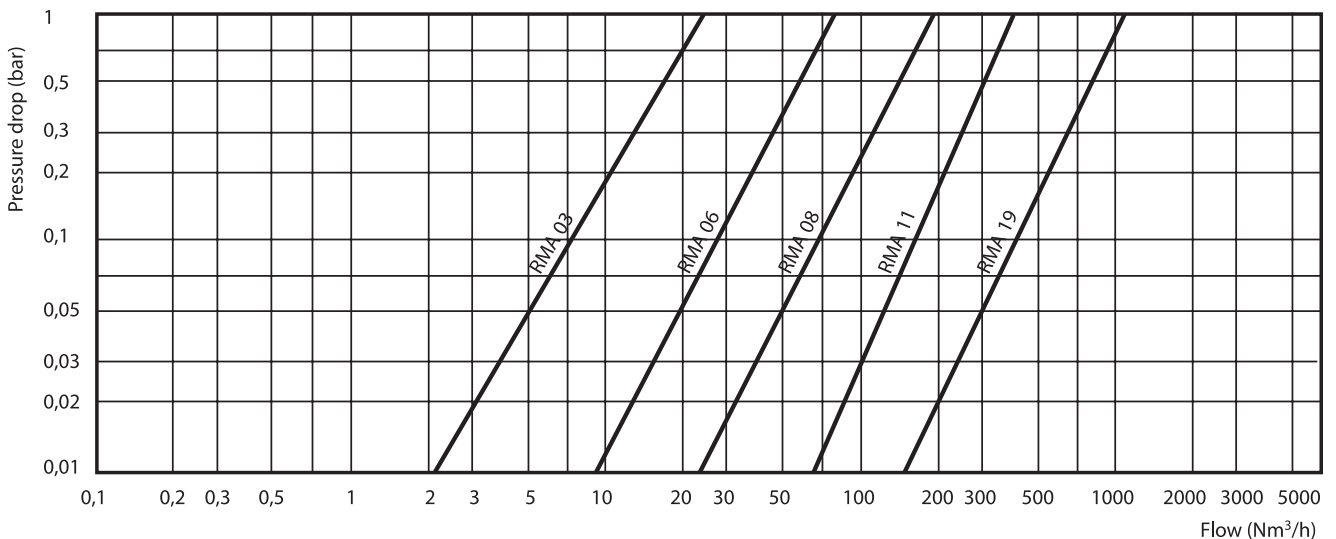
■ Single shut-off



■ Double shut-off



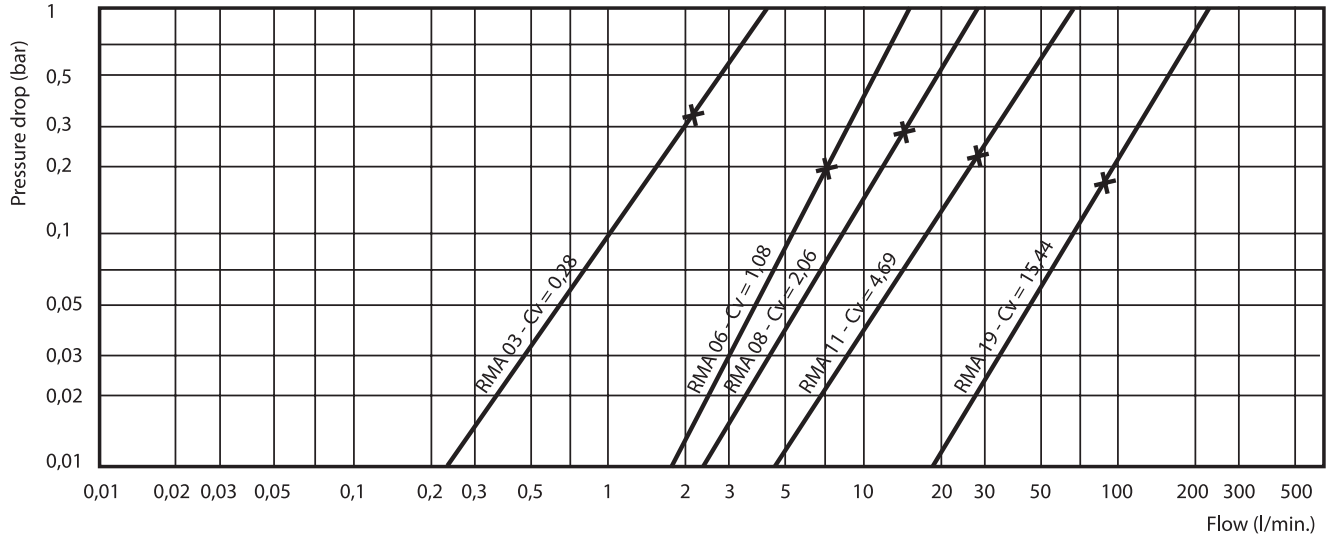
■ Unvalved



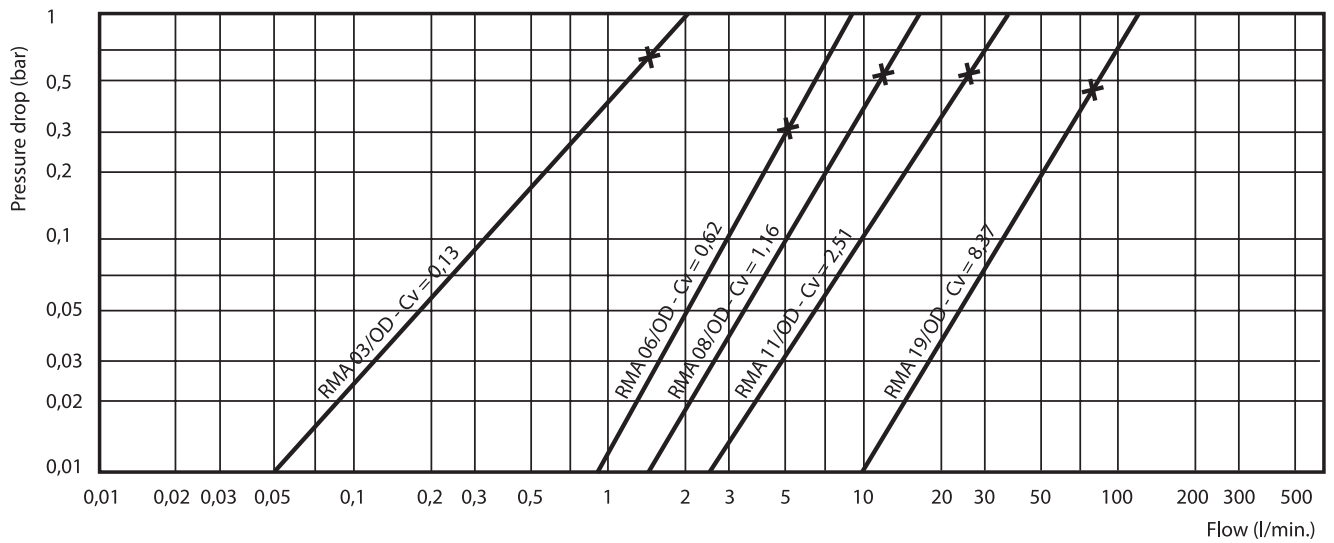
Hydraulic flow / pressure drop charts

	RMA 03	RMA 06	RMA 08	RMA 11	RMA 19
Hydraulic flow in l/mn for a speed of 5 m/s					
Single shut-off	2,1	7,2	15,1	28,5	85
Double shut-off	1,5	5	12,2	24,5	76,5
Unvalved	2,1	7,2	15,1	28,5	85

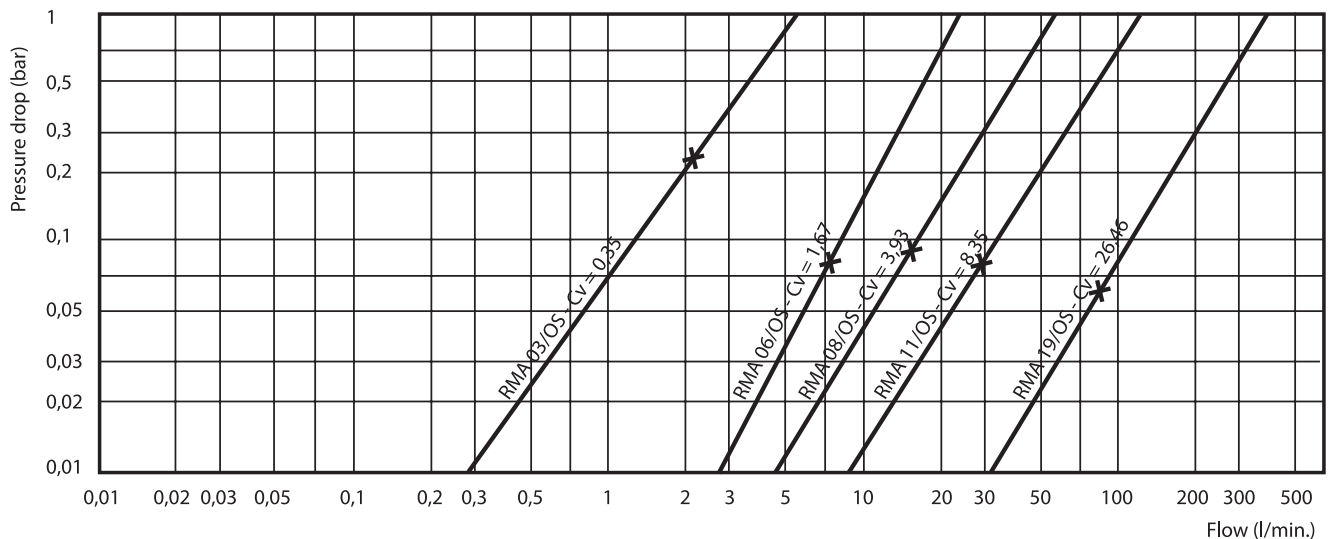
Single shut-off



Double shut-off



Unvalved



Direction of flow: socket → plug

✕ : $V = 5 \text{ m/s}$

■ Test conditions:

Test fluid: water

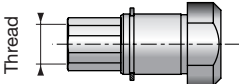
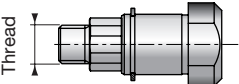
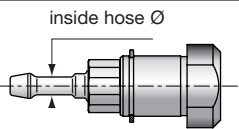
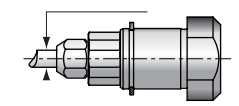
RMA 03 - Test fluid: hydraulic oil INVAROL FJ13 (H515) at 40 °C
(density: 833 kg/m³ - viscosity: 13,4 cSt at 40 °C)

RMA coupling components

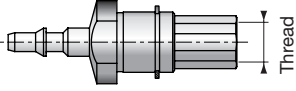
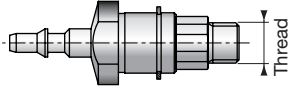
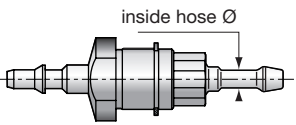
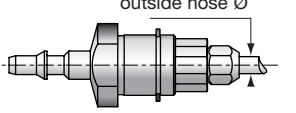
Part-numbers

RMA 03

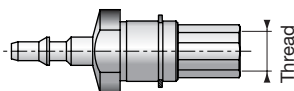
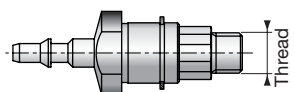
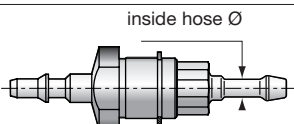
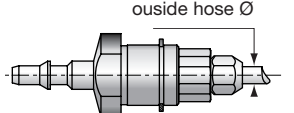
Sockets

1. Female thread		End connection	PART-NUMBERS	Options		
				IA	IA/HPL	IA/W
		G 1/8	RMA 03.2100	x	x	x
		Rc 1/8	RMA 03.2110	x	x	x
		NPT 1/8	RMA 03.2200	x	x	x
2. Male thread		G 1/8	RMA 03.2150	x	x	x
		G 1/4	RMA 03.2151	x	x	x
		NPT 1/8	RMA 03.2250	x	x	x
		NPT 1/4	RMA 03.2251	x	x	x
3. For rubber hose		Ø 4 mm	RMA 03.2804	x		
		Ø 6 mm	RMA 03.2806	x		
4. For plastic hose		4/6 mm	RMA 03.2904	x		
		6/8 mm	RMA 03.2906	x		

Unvalved plugs

1. Female thread		End connection	PART-NUMBERS
		G 1/8	RMA 03.4100
	Rc 1/8	RMA 03.4110	
	NPT 1/8	RMA 03.4200	
2. Male thread		G 1/8	RMA 03.4150
		G 1/4	RMA 03.4151
		NPT 1/8	RMA 03.4250
		NPT 1/4	RMA 03.4251
3. For rubber hose		Ø 4 mm	RMA 03.4804
		Ø 6 mm	RMA 03.4806
4. For plastic hose		4/6 mm	RMA 03.4904
		6/8 mm	RMA 03.4906

Valved plugs

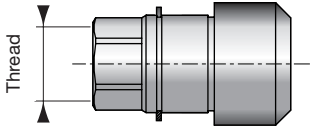
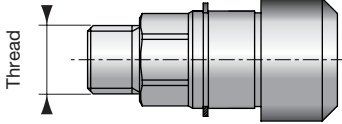
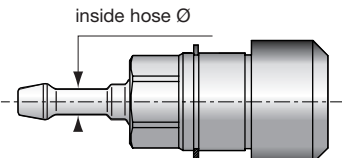
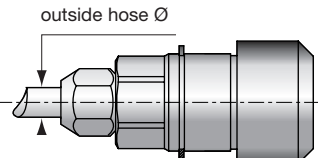
1. Female thread		End connection	PART-NUMBERS	Options		
				IA	IA/HPL	IA/W
		G 1/8	RMA 03.5100	x	x	x
		Rc 1/8	RMA 03.5110	x	x	x
		NPT 1/8	RMA 03.5200	x	x	x
2. Male thread		G 1/8	RMA 03.5150	x	x	x
		G 1/4	RMA 03.5151	x	x	x
		NPT 1/8	RMA 03.5250	x	x	x
		NPT 1/4	RMA 03.5251	x	x	x
3. For rubber hose		Ø 4 mm	RMA 03.5804	x		
		Ø 6 mm	RMA 03.5806	x		
4. For plastic hose		4/6 mm	RMA 03.5904	x		
		6/8 mm	RMA 03.5906	x		

RMA coupling components

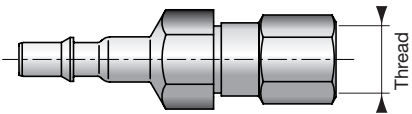
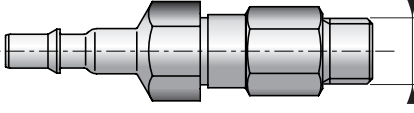
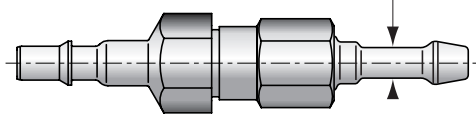
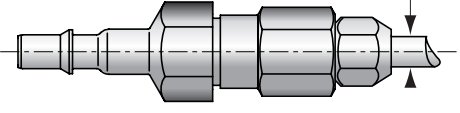
Part-numbers

RMA 06

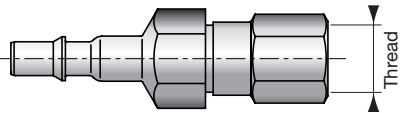
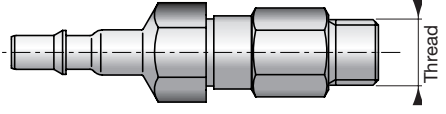
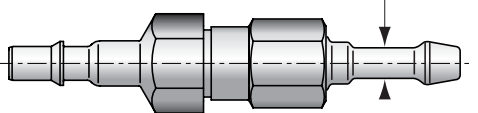
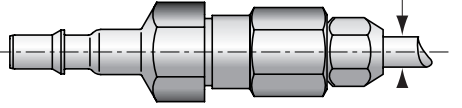
Sockets

1. Female thread	End connection	PART-NUMBERS	Options		
			IA	IA/HPL	IA/W
	G 1/8	RMA 06.2100	x	x	x
	G 1/4	RMA 06.2101	x	x	x
	G 3/8	RMA 06.2102	x	x	x
	G 1/2	RMA 06.2103	x	x	x
	Rc 1/4	RMA 06.2111	x	x	x
	NPT 1/8	RMA 06.2200	x	x	x
	NPT 1/4	RMA 06.2201	x	x	x
	NPT 3/8	RMA 06.2202	x	x	x
	NPT 1/2	RMA 06.2203	x	x	x
2. Male thread 	G 1/8	RMA 06.2150	x	x	x
	G 1/4	RMA 06.2151	x	x	x
	G 3/8	RMA 06.2152	x	x	x
	G 1/2	RMA 06.2153	x	x	x
	NPT 1/8	RMA 06.2250	x	x	x
	NPT 1/4	RMA 06.2251	x	x	x
	NPT 3/8	RMA 06.2252	x	x	x
NPT 1/2	RMA 06.2253	x	x	x	
3. For rubber hose 	Ø 6 mm	RMA 06.2806	x		
	Ø 8 mm	RMA 06.2808	x		
	Ø 10 mm	RMA 06.2810	x		
	Ø 13 mm	RMA 06.2813	x		
4. For plastic tube 	6/8 mm	RMA 06.2906	x		
	8/10 mm	RMA 06.2908	x		

Unvalved plugs

1. Female thread		End connection	PART-NUMBERS
		G 1/8	RMA 06.4100
G 1/4	RMA 06.4101		
G 3/8	RMA 06.4102		
Rc 1/4	RMA 06.4111		
NPT 1/8	RMA 06.4200		
NPT 1/4	RMA 06.4201		
NPT 3/8	RMA 06.4202		
2. Male thread		G 1/8	RMA 06.4150
		G 1/4	RMA 06.4151
		G 3/8	RMA 06.4152
		NPT 1/8	RMA 06.4250
		NPT 1/4	RMA 06.4251
		NPT 3/8	RMA 06.4252
3. For rubber hose		Ø 6 mm	RMA 06.4806
		Ø 8 mm	RMA 06.4808
		Ø 10 mm	RMA 06.4810
		Ø 13 mm	RMA 06.4813
4. For plastic tube		6/8 mm	RMA 06.4906
		8/10 mm	RMA 06.4908

Valved plugs

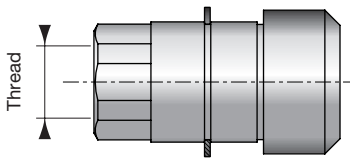
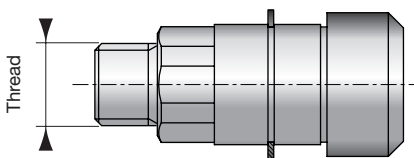
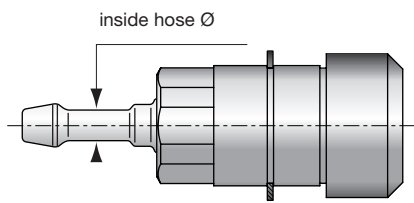
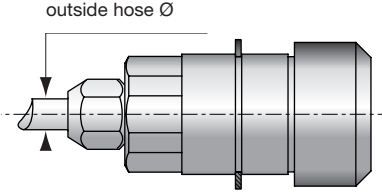
1. Female thread		End connection	PART-NUMBERS	Options		
				IA	IA/HPL	IA/W
		G 1/8	RMA 06.5100	x	x	x
		G 1/4	RMA 06.5101	x	x	x
		G 3/8	RMA 06.5102	x	x	x
		Rc 1/4	RMA 06.5111	x	x	x
		NPT 1/8	RMA 06.5200	x	x	x
		NPT 1/4	RMA 06.5201	x	x	x
		NPT 3/8	RMA 06.5202	x	x	x
2. Male thread		G 1/8	RMA 06.5150	x	x	x
		G 1/4	RMA 06.5151	x	x	x
		G 3/8	RMA 06.5152	x	x	x
		NPT 1/8	RMA 06.5250	x	x	x
		NPT 1/4	RMA 06.5251	x	x	x
		NPT 3/8	RMA 06.5252	x	x	x
3. For rubber hose		Ø 6 mm	RMA 06.5806	x		
		Ø 8 mm	RMA 06.5808	x		
		Ø 10 mm	RMA 06.5810	x		
		Ø 13 mm	RMA 06.5813	x		
4. For plastic tube		6/8 mm	RMA 06.5906	x		
		8/10 mm	RMA 06.5908	x		

RMA coupling components

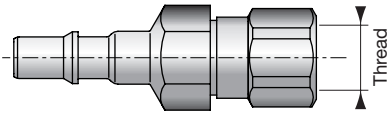
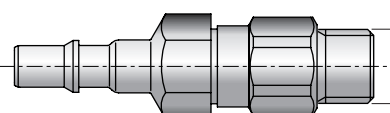
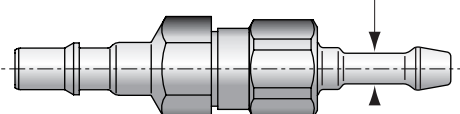
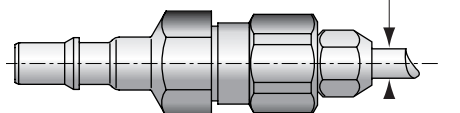
Part-numbers

RMA 08

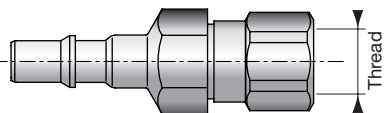
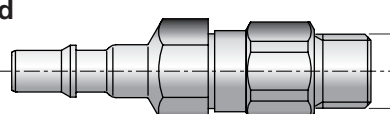
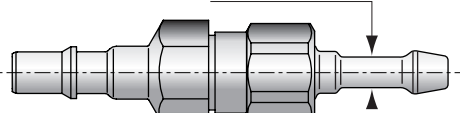
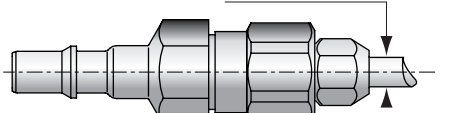
Sockets

1. Female thread		End connection	PART-NUMBERS	Options		
				IA	IA/HPL	IA/W
2. Male thread		G 1/4	RMA 08.2101	x	x	x
		G 3/8	RMA 08.2102	x	x	x
		G 1/2	RMA 08.2103	x	x	x
		Rc 3/8	RMA 08.2112	x	x	x
		NPT 1/4	RMA 08.2201	x	x	x
		NPT 3/8	RMA 08.2202	x	x	x
		NPT 1/2	RMA 08.2203	x	x	x
		G 1/4	RMA 08.2151	x	x	x
		G 3/8	RMA 08.2152	x	x	x
3. For rubber hose		Ø 8 mm	RMA 08.2808	x		
		Ø 10 mm	RMA 08.2810	x		
		Ø 13 mm	RMA 08.2813	x		
		Ø 16 mm	RMA 08.2816	x		
4. For plastic tube		8/10 mm	RMA 08.2908	x		
		10/12 mm	RMA 08.2910	x		

Unvalved plugs

1. Female thread 	End connection	PART-NUMBERS
	G 1/4	RMA 08.4101
	G 3/8	RMA 08.4102
	G 1/2	RMA 08.4103
	Rc 3/8	RMA 08.4112
	NPT 1/4	RMA 08.4201
	NPT 3/8	RMA 08.4202
2. Male thread 	G 1/4	RMA 08.4151
	G 3/8	RMA 08.4152
	G 1/2	RMA 08.4153
	NPT 3/8	RMA 08.4252
3. For rubber hose 	Ø 8 mm	RMA 08.4808
	Ø 10 mm	RMA 08.4810
	Ø 13 mm	RMA 08.4813
	Ø 16 mm	RMA 08.4816
4. For plastic tube 	8/10 mm	RMA 08.4908
	10/12 mm	RMA 08.4910

Valved plugs

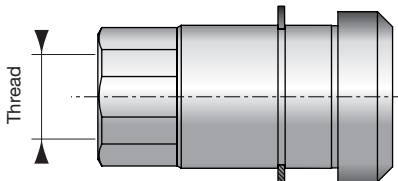
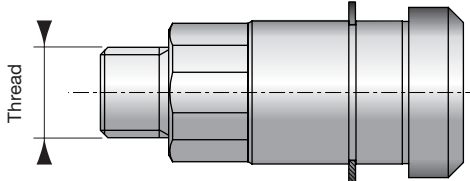
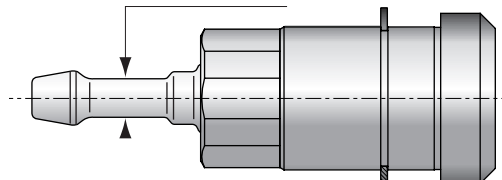
1. Female thread	End connection	PART-NUMBERS	Options		
			IA	IA/HPL	IA/W
	G 1/4	RMA 08.5101	x	x	x
	G 3/8	RMA 08.5102	x	x	x
	G 1/2	RMA 08.5103	x	x	x
	Rc 3/8	RMA 08.5112	x	x	x
	NPT 1/4	RMA 08.5201	x	x	x
	NPT 3/8	RMA 08.5202	x	x	x
	NPT 1/2	RMA 08.5203	x	x	x
2. Male thread 	G 1/4	RMA 08.5151	x	x	x
	G 3/8	RMA 08.5152	x	x	x
	G 1/2	RMA 08.5153	x	x	x
	NPT 3/8	RMA 08.5252	x	x	x
3. For rubber hose 	Ø 8 mm	RMA 08.5808	x		
	Ø 10 mm	RMA 08.5810	x		
	Ø 13 mm	RMA 08.5813	x		
	Ø 16 mm	RMA 08.5816	x		
4. For plastic tube 	8/10 mm	RMA 08.5908	x		
	10/12 mm	RMA 08.5910	x		

RMA coupling components

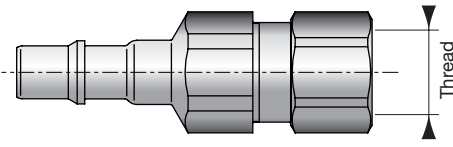
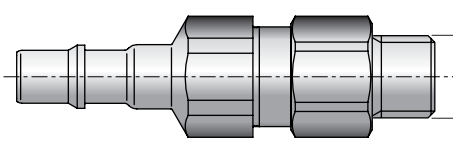
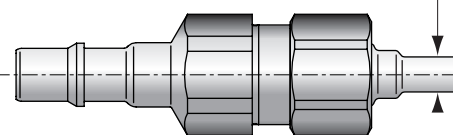
Part-numbers

RMA 11

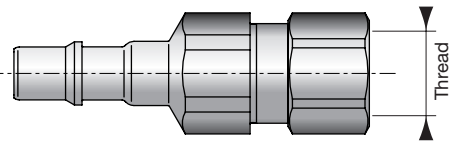
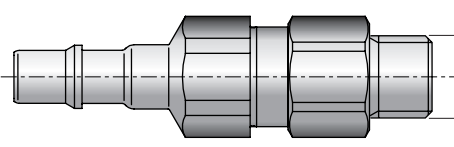
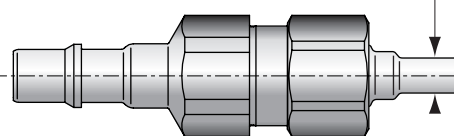
Sockets

1. Female thread	End connection	PART-NUMBERS	Options		
			IA	IA/HPL	IA/W
	G 3/8	RMA 11.2102	x	x	x
	G 1/2	RMA 11.2103	x	x	x
	G 3/4	RMA 11.2104	x	x	x
	Rc 1/2	RMA 11.2113	x	x	x
	NPT 3/8	RMA 11.2202	x	x	x
	NPT 1/2	RMA 11.2203	x	x	x
	NPT 3/4	RMA 11.2204	x	x	x
2. Male thread 	G 3/8	RMA 11.2152	x	x	x
	G 1/2	RMA 11.2153	x	x	x
	G 3/4	RMA 11.2154	x	x	x
	NPT 3/8	RMA 11.2252	x	x	x
	NPT 1/2	RMA 11.2253	x	x	x
3. For rubber hose 	Ø 08 mm	RMA 11.2808	x		
	Ø 10 mm	RMA 11.2810	x		
	Ø 13 mm	RMA 11.2813	x		
	Ø 16 mm	RMA 11.2816	x		
	Ø 19 mm	RMA 11.2819	x		

Unvalved plugs

1. Female thread		End connection	PART-NUMBERS
		G 3/8	RMA 11.4102
G 1/2	RMA 11.4103		
G 3/4	RMA 11.4104		
Rc 1/2	RMA 11.4113		
NPT 3/8	RMA 11.4202		
NPT 1/2	RMA 11.4203		
NPT 3/4	RMA 11.4204		
2. Male thread		G 3/8	RMA 11.4152
		G 1/2	RMA 11.4153
		G 3/4	RMA 11.4154
		NPT 3/8	RMA 11.4252
		NPT 1/2	RMA 11.4253
		NPT 3/4	RMA 11.4254
3. For rubber hose		Ø 13 mm	RMA 11.4813
		Ø 16 mm	RMA 11.4816
		Ø 19 mm	RMA 11.4819

Valved plugs

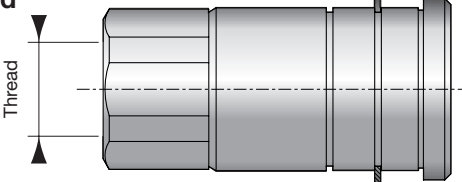
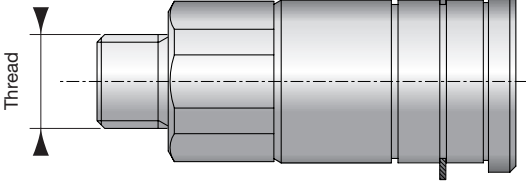
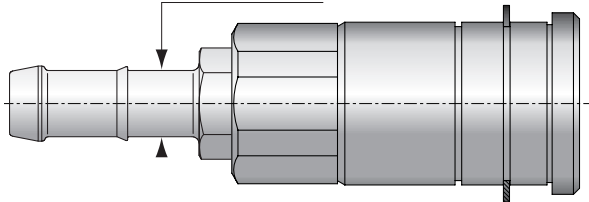
1. Female thread		End connection	PART-NUMBERS	Options		
				IA	IA/HPL	IA/W
G 3/8	RMA 11.5102	x	x	x		
G 1/2	RMA 11.5103	x	x	x		
G 3/4	RMA 11.5104	x	x	x		
Rc 1/2	RMA 11.5113	x	x	x		
NPT 3/8	RMA 11.5202	x	x	x		
NPT 1/2	RMA 11.5203	x	x	x		
NPT 3/4	RMA 11.5204	x	x	x		
2. Male thread		G 3/8	RMA 11.5152	x	x	x
		G 1/2	RMA 11.5153	x	x	x
		G 3/4	RMA 11.5154	x	x	x
		NPT 3/8	RMA 11.5252	x	x	x
		NPT 1/2	RMA 11.5253	x	x	x
		NPT 3/4	RMA 11.5254	x	x	x
3. For rubber hose		Ø 13 mm	RMA 11.5813	x		
		Ø 16 mm	RMA 11.5816	x		
		Ø 19 mm	RMA 11.5819	x		

RMA coupling components

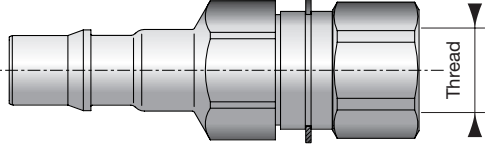
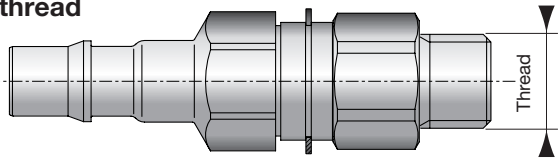
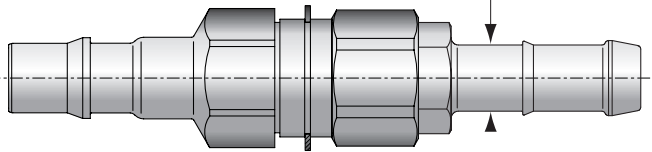
Part-numbers

RMA 19

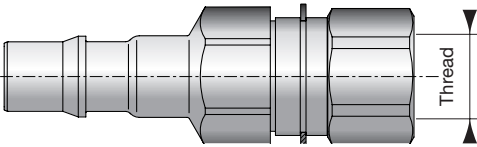
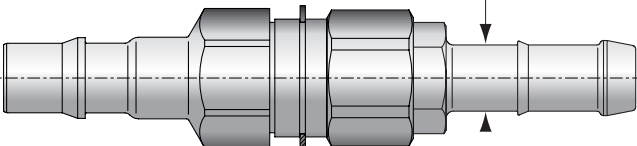
Sockets

1. Female thread		End connection	PART-NUMBERS	Options		
				IA	IA/HPL	IA/W
		G 3/4	RMA 19.2104	x	x	x
		G 1	RMA 19.2105	x	x	x
		Rc 3/4	RMA 19.2114	x	x	x
		NPT 3/4	RMA 19.2204	x	x	x
		NPT 1	RMA 19.2205	x	x	x
2. Male thread		G 3/4	RMA 19.2154	x	x	x
		G 1	RMA 19.2155	x	x	x
		NPT 3/4	RMA 19.2254	x	x	x
		NPT 1	RMA 19.2255	x	x	x
3. For rubber hose		Ø 19 mm	RMA 19.2819	x		
		Ø 25 mm	RMA 19.2825	x		

Unvalved plugs

1. Female thread		End connection	PART-NUMBERS
		G 1	RMA 19.4105
		Rc 3/4	RMA 19.4114
		NPT 3/4	RMA 19.4204
		NPT 1	RMA 19.4205
2. Male thread		G 3/4	RMA 19.4154
		G 1	RMA 19.4155
		NPT 3/4	RMA 19.4254
		NPT 1	RMA 19.4255
3. For rubber hose		Ø 19 mm	RMA 19.4819
		Ø 25 mm	RMA 19.4825

Valved plugs

1. Female thread	End connection	PART-NUMBERS	Options		
			IA	IA/HPL	IA/W
	G 3/4	RMA 19.5104	x	x	x
	G 1	RMA 19.5105	x	x	x
	Rc 3/4	RMA 19.5114	x	x	x
	NPT 3/4	RMA 19.5204	x	x	x
	NPT 1	RMA 19.5205	x	x	x
2. Male thread	G 3/4	RMA 19.5154	x	x	x
	G 1	RMA 19.5155	x	x	x
	NPT 3/4	RMA 19.5254	x	x	x
	NPT 1	RMA 19.5255	x	x	x
3. For rubber hose					
	Ø 19 mm	RMA 19.5819	x		
	Ø 25 mm	RMA 19.5825	x		

Technical recommendations

Fitting of sockets and plugs with flexible hoses



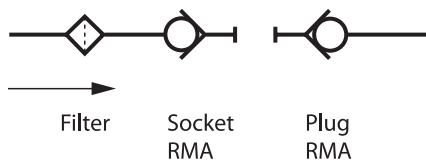
Check freedom motion of socket / plug after assembling the securing ring on the sockets and plugs. (For other assemblies, consult us) applying proper tightening torque on plug adaptor.

Plug back adaptors clamping torque in N.m with +/- 15 %				
RMA 03	RMA 06	RMA 08	RMA 11	RMA 19
12	35	50	70	100



Prevent any constraint from flexible hose onto socket / plug. This would cancel any motion freedom.

Filtration of the circuit



Recommended grade of filtration:
200 microns

Lubrication

Stäubli RMA socket and plug shall be lubricated with **STÄUBLI G 11**.

Lubrication frequency:

- every 30 000 manoeuvres or 6 months.

On degreasing fluids (freon, solvants):
consult us.

Maintenance

See maintenance sheets

- > Socket → **R 303 910 00**
- > Plug → **R 303 911 00**

For contact details: www.staubli.com/connectors/contacts



Global presence of the Stäubli Group

- Stäubli units
- Agents

International sales coordination

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www.staubli.com

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