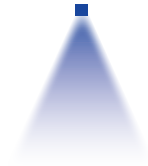


➤ Pneumatic atomizing nozzles for atomizing viscous media

Series 176 ViscoMist



The ViscoMist™ series offers independent regulation of both atomizing air and fan air, which provides the user with infinite control over the viscous fluid's spray pattern and roplet size.

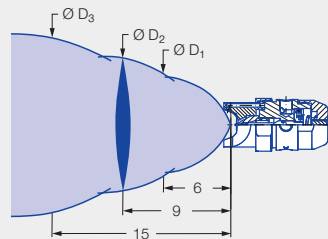
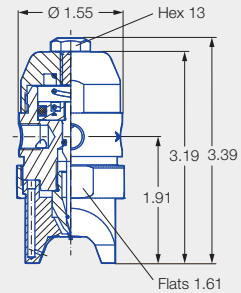
The ViscoMist™ nozzle features a standard 'Liquid Shut-Off/Clean-Out Needle' function. This design element activates and deactivates the liquid supply, while simultaneously removing excess fluid from the fluid nozzle preventing clogging. This feature is especially vital when the viscous liquids are being applied in continuous process environments.

The modular design of the ViscoMist™ allows maximum flexibility to meet the exact spray requirements.

Interchangeable air caps and various flow capacities are available to suit any spraying application needs.



Series 176 ViscoMist



External mixing nozzle for viscous liquids, e.g. for:

- Coating processes
- Moisturising
- Lubrication
- Glazing
- Disinfection

One nozzle – several spray characters:

- Spray characters
 - Solid stream
 - Full cone
 - Flat fan
- Independent regulation of liquid, atomizing air and fan air
- Fluid circulation possible (nozzle body with five connections)

Nozzle sizes:

- Ø 0.01 in to 0.10 in

Valve position:

- Normally closed, fail-safe with loss of air

Signal air pressure:

- Min. 30 psi, max. 45 psi

Cycles per minute:

- 180 cycles/min (short term)

Connection thread:

- 1/8 NPT
- BSPP thread available on request

Weight:

- 1.21 lb

Material:

- 1Y (stainless steel 316L)

Flow rate range:

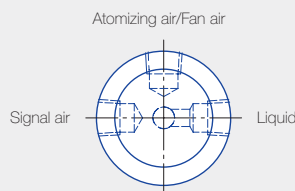
- Water: .55 to 21.4 gal/hr, at 30 psi
- Air 27.5 to 104.12 gal/min in normal condition, at 30 psi

Atomizing air/Signal air/Fan air:

The atomizing air causes the liquid to atomize at the nozzle orifice. The spray character can be adjusted with the fan air to suit the application. The signal air activates the nozzle.

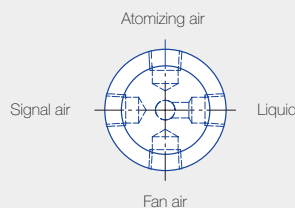
Nozzle body configurations

Nozzle body configuration 2



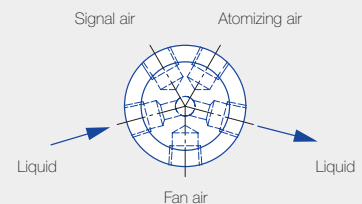
Version with three connections

Nozzle body configuration 4



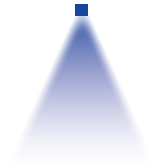
Version with four connections

Nozzle body configuration 5



Version with five connections





Ordering number	Narrowest free cross section Ø [in]	Liquid		Air			Spray dimensions [in] at distance D ₁ , D ₂ and D ₃																
		Liquid pressure p [psi]	V̇ water [gal/h]	Air pressure p air [psi]	Atomizing air [SCFM]	Fan air [SCFM]	Atomizing air [psi]	Liquid pressure p [psi]	Fan air [psi]														
									0.00*			5			10			15			22		
									Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in
176.201.1Y.01.00 176.401.1Y.01.00 176.501.1Y.01.00	0.01	2	0.5	2	0.2	0.6	4	5	2	2	4	6	7	8	7	9	11	7	9	10	7	9	11
		4	0.7	4	0.4	0.8		10	2	2	3	6	8	11	8	11	13	9	12	13	9	11	13
		10	1.2	10	0.6	1.3		15	-	-	-	7	8	11	8	12	15	9	12	14	10	12	15
		15	1.5	15	0.7	1.7		22	-	-	-	7	8	14	8	10	13	10	12	14	11	13	15
		20	1.7	20	0.8	2.0	15	5	2	2	4	4	5	7	5	7	9	6	9	11	7	9	12
		25	1.9	25	0.9	2.3		10	2	2	4	3	4	7	5	7	9	6	8	9	7	9	11
		29	2.1	29	1.1	2.7		15	1	2	3	3	5	7	5	7	10	6	9	11	7	9	13
		35	2.3	35	1.2	3.0		22	-	-	-	4	6	8	6	7	10	7	10	14	7	11	14
		40	2.4	40	1.4	3.3	30	5	2	2	4	2	3	4	4	5	6	4	6	7	6	8	9
		46	2.6	46	1.5	3.7		10	2	2	4	2	4	6	3	4	6	4	7	9	6	8	10
		51	2.7	51	1.6	4.0		15	2	2	4	3	4	6	4	5	7	5	8	10	6	8	10
		58	3.0	58	1.8	4.5		22	-	-	-	2	3	5	4	6	7	6	7	9	7	9	12
		176.202.1Y.01.00 176.402.1Y.01.00 176.502.1Y.01.00	0.02	2	1.1	2	0.3	0.6	4	5	2	2	4	6	7	11	2	10	12	7	9	11	8
4	1.6			4	0.4	0.8	10	-		-	-	7	9	10	3	12	14	11	13	16	12	13	16
10	2.4			10	0.6	1.3	15	-		-	-	6	8	9	3	11	17	12	13	18	12	15	22
15	3.0			15	0.7	1.7	22	-		-	-	-	-	-	3	11	14	11	13	17	14	16	19
20	3.5			20	0.8	2.0	15	5	2	2	4	4	6	6	5	7	9	6	7	9	7	9	10
25	4.0			25	0.9	2.3		10	2	2	4	4	5	7	6	7	9	7	9	10	8	9	11
29	4.3			29	1.1	2.7		15	-	-	-	4	6	8	7	8	11	7	9	13	8	10	13
35	4.7			35	1.2	3.0		22	-	-	-	-	-	-	7	8	12	8	10	14	10	12	15
40	5.1			40	1.4	3.3	30	5	2	2	3	2	3	4	4	5	7	4	6	7	5	8	9
46	5.4			46	1.5	3.7		10	2	2	3	3	4	5	4	6	7	6	7	7	6	8	10
51	5.7			51	1.6	4.0		15	1	2	4	3	4	5	4	6	7	5	7	9	6	8	10
58	6.2			58	1.8	4.5		22	-	-	-	3	4	6	4	6	9	5	7	9	7	9	12
176.203.1Y.01.00 176.403.1Y.01.00 176.503.1Y.01.00	0.03			2	2.2	2	0.2	0.6	4	5	-	-	-	9	12	16	13	16	19	13	16	20	12
		4	3.3	4	0.2	0.8	6	-		-	-	9	11	13	12	14	20	16	19	24	17	23	29
		10	5.1	10	0.4	1.3	10	-		-	-	-	-	-	13	16	21	16	18	25	18	21	28
		15	6.3	15	0.5	1.7	13	-		-	-	-	-	-	11	14	18	15	18	24	16	20	23
		20	7.3	20	0.6	2.3	16	5	2	2	4	6	8	11	7	9	11	9	12	15	11	14	16
		25	8.2	25	0.6	3.0		10	-	-	-	6	8	10	9	12	15	12	14	18	13	15	17
								15	-	-	-	-	-	-	9	11	16	12	15	20	12	16	19
								22	-	-	-	-	-	-	9	11	15	11	15	20	13	17	21

Notice:

The fourth digit in the order number (2, 4 or 5) stands for the housing variant (for details see Page 139).

* A cone-shaped spray pattern is produced without fan air.





Ordering number	Narrowest free cross section Ø [in]	Liquid		Air			Spray dimensions [in] at distance D ₁ , D ₂ and D ₃																
		Liquid pressure p [psi]	V̇ water [gal/h]	Air pressure p air [psi]	Atomizing air [SCFM]	Fan air [SCFM]	Atomizing air [psi]	Liquid pressure p [psi]	Fan air [psi]														
									0.00*			5			10			15			22		
									Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in
176.203.1Y.01.00 176.403.1Y.01.00 176.503.1Y.01.00	0.03	29	9.0	29	1.3	2.7	30	5	1	2	3	4	6	7	6	8	9	7	9	12	8	9	11
		35	9.7	35	1.4	3.0		10	-	-	-	5	6	8	7	9	13	9	12	15	10	12	14
		40	10.4	40	1.6	3.3		15	-	-	-	5	7	8	7	9	13	9	12	16	10	13	16
		46	11.1	40	1.7	3.7		22	-	-	-	-	-	-	7	9	13	9	12	17	10	13	17
		51	11.7	46	1.9	4.0	40	5	2	2	4	4	5	7	6	7	9	7	8	11	7	9	12
		58	12.7	51	2.1	4.5		10	-	-	-	4	6	8	6	8	10	7	9	12	9	11	15
					15	-		-	-	-	-	-	7	9	12	8	10	14	9	11	15		
							22	-	-	-	-	-	-	7	9	13	9	11	15	9	11	16	
176.204.1Y.01.00 176.404.1Y.01.00 176.504.1Y.01.00	0.04	2	4.5	2	1.4	1.2	4	5	-	-	-	6	8	12	12	16	18	13	16	22	12	16	20
		4	6.4	4	2.0	1.7		10	-	-	-	-	-	-	12	15	41	14	17	21	16	19	25
		10	9.8	10	3.3	2.7		15	-	-	-	-	-	-	10	15	20	14	18	23	16	20	27
		15	12.1	15	4.3	3.4	15	5	2	2	3	4	6	7	6	8	10	8	10	13	10	12	17
		20	14.0	20	5.2	4.1		10	-	-	-	4	6	9	7	8	11	9	11	15	10	13	17
		25	15.6	25	6.0	4.7		15	-	-	-	4	5	7	6	7	12	9	10	15	10	12	19
		29	17.2	29	6.8	5.3		22	-	-	-	-	-	-	6	8	11	8	10	16	9	12	18
		35	18.6	35	7.6	6.0	30	5	2	2	4	3	4	6	4	5	7	4	7	9	6	7	11
		40	19.9	40	8.4	6.6		10	-	-	-	3	4	6	4	5	8	5	7	9	6	8	11
		46	21.2	46	9.2	7.2		15	-	-	-	3	4	6	4	6	8	5	7	10	6	8	11
		51	22.4	51	10.1	7.8		22	-	-	-	3	4	6	4	6	9	5	7	10	6	8	12
		58	24.2	58	11.5	8.9	40	5	2	3	4	3	4	6	4	5	7	4	6	8	6	7	10
								10	2	3	4	2	4	6	4	5	7	4	6	9	6	7	10
								15	-	-	-	3	4	6	4	5	7	4	6	10	6	7	11
					22	-		-	-	3	4	6	4	5	7	4	6	9	6	7	12		
176.205.1Y.01.00 176.405.1Y.01.00 176.505.1Y.01.00	0.05	2	6.5	2	1.3	1.2	4	5	-	-	-	9	13	18	14	18	21	16	21	25	18	21	26
		4	9.3	4	1.9	1.7		10	-	-	-	-	-	-	13	18	23	16	20	26	16	19	24
		10	14.3	10	3.0	2.7		15	-	-	-	-	-	-	13	16	19	14	18	22	17	22	29
		15	17.6	15	4.0	3.4	15	5	-	-	-	5	7	9	7	9	15	9	11	17	7	14	20
		20	20.2	20	4.7	4.1		10	-	-	-	4	7	9	7	9	13	9	11	16	7	14	20
		25	22.8	25	5.4	4.7		15	-	-	-	-	-	-	7	9	14	9	12	17	11	13	19
		29	25.0	29	6.1	5.3		22	-	-	-	-	-	-	7	9	12	9	12	16	10	13	19
		35	27.2	35	6.8	6.0	30	5	2	2	4	3	4	6	4	6	8	6	7	10	7	9	13
		40	29.2	40	7.5	6.6		10	-	-	-	3	4	6	4	6	9	5	7	11	7	9	14
		46	31.0	46	8.2	7.2		15	-	-	-	3	4	6	4	6	9	6	7	11	7	9	14
		51	32.8	51	8.9	7.8		22	-	-	-	3	4	6	4	6	8	6	7	12	7	9	14
		58	35.4	58	10.1	8.9	40	5	2	2	4	3	4	6	4	5	8	4	6	9	6	7	11
								10	-	-	-	2	4	6	4	5	8	4	7	10	6	8	12
								15	-	-	-	2	4	5	4	5	8	5	7	9	6	8	12
					22	-		-	-	2	4	6	4	5	8	4	7	10	6	8	12		

Notice:

The fourth digit in the order number (2, 4 or 5) stands for the housing variant (for details see Page 139).

* A cone-shaped spray pattern is produced without fan air.

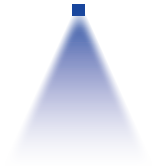




Ordering number	Narrowest free cross section Ø [in]	Liquid		Air			Spray dimensions [in] at distance D ₁ , D ₂ and D ₃																						
		Liquid pressure p [psi]	V water [gal/h]	Air pressure p air [psi]	Atomizing air [SCFM]	Fan air [SCFM]	Atomizing air [psi]	Liquid pressure p [psi]	Fan air [psi]																				
									10			15			20			25			30								
									Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in						
176.206.1Y.01.00 176.406.1Y.01.00 176.506.1Y.01.00	0.04	2	11.0	2	0.9	1.2	15	5	9	13	20	11	16	24	14	18	26	-	-	-	-	-	-						
		4	15.7	4	1.3	1.7		10	9	14	21	13	17	26	14	20	30	-	-	-	-	-	-						
		10	24.0	10	2.0	2.7		15	10	14	20	12	17	24	14	20	27	-	-	-	-	-	-						
		15	29.5	15	2.6	3.4		22	-	-	-	12	15	22	13	18	24	-	-	-	-	-	-						
		20	34.1	20	3.0	4.1	30	5	6	9	13	8	11	16	9	12	18	9	13	18	10	13	17						
								10	7	9	12	8	10	15	9	12	18	10	14	19	11	14	20						
								15	6	9	13	7	10	15	9	12	17	10	13	19	11	14	21						
								25	38.1	25	3.5	4.7	22	-	-	-	7	10	14	9	11	17	10	13	20	11	14	20	
								29	41.7	29	3.9	5.3	40	5	6	7	11	7	9	12	7	10	14	8	11	16	8	11	17
														10	6	8	12	7	9	13	7	10	15	8	11	16	9	12	16
														15	6	7	11	7	9	13	7	9	15	8	11	16	9	12	17
														22	5	7	10	6	8	13	7	10	15	8	11	17	9	13	19
		46	51.1	46	5.3	7.2	60	5	5	7	10	6	8	12	7	9	13	7	9	14	7	9	14						
								10	5	7	10	6	8	12	7	9	13	7	9	14	7	10	15						
15	5							7	11	6	8	12	6	9	13	7	10	14	8	10	16								
22	-							-	-	6	8	12	6	9	14	7	10	15	8	11	17								
176.207.1Y.01.00 176.407.1Y.01.00 176.507.1Y.01.00	0.08	2	15.6	2	2.1	2.0	15	5	8	11	16	11	14	19	13	17	21	13	19	27	16	19	26						
		4	22.4	4	3.2	2.9		10	8	11	16	11	14	19	12	16	23	14	18	28	16	21	30						
		10	34.3	10	5.0	4.6		15	6	9	14	9	12	18	11	14	21	12	17	24	14	20	29						
		15	42.1	15	6.4	5.9		22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
		20	48.8	20	7.6	7.2	30	5	4	6	9	6	7	11	7	9	14	9	11	15	10	13	19						
								10	4	6	9	6	7	11	7	10	15	8	11	16	10	13	19						
								15	4	6	10	5	7	11	7	9	13	8	11	16	9	12	19						
								22	-	-	-	-	-	-	6	9	13	7	10	15	9	12	17						
		29	59.9	29	10.0	9.4	45	5	4	5	7	4	7	10	6	8	12	7	9	13	8	11	15						
								10	4	5	8	5	7	10	6	8	12	7	9	14	8	11	16						
								15	4	4	7	5	6	10	6	7	12	7	9	13	8	11	15						
								22	4	5	8	4	6	10	6	8	12	6	9	14	8	11	15						
		46	73.7	46	13.4	12.7	60	5	4	4	6	4	6	9	6	7	10	6	9	14	7	10	16						
								10	4	4	7	4	6	9	5	7	11	6	8	13	7	10	14						
15	3							4	7	4	6	9	5	7	11	6	9	13	7	10	15								
22	-							-	-	4	6	9	5	7	10	6	8	13	7	9	14								

Notice:
 The fourth digit in the order number (2, 4 or 5) stands for the housing variant (for details see Page 139).
 * A cone-shaped spray pattern is produced without fan air.





Ordering number	Narrowest free cross section Ø [in]	Liquid		Air			Spray dimensions [in] at distance D ₁ , D ₂ and D ₃																		
		Liquid pressure p [psi]	V water [gal/h]	Air pressure p air [psi]	Atomizing air [SCFM]	Fan air [SCFM]	Atomizing air [psi]	Liquid pressure p [psi]	Fan air [psi]																
									10			15			20			25			30				
		Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in	Ø D ₁ = 6 in	Ø D ₂ = 9 in	Ø D ₃ = 15 in									
176.208.1Y.01.00 176.408.1Y.01.00 176.508.1Y.01.00	0.09	2	25.7	2	2.3	2.6	15	5	7	11	17	11	14	24	12	18	28	-	-	-	-	-	-		
		4	30.3	4	2.7	3.1		10	7	11	17	10	14	24	13	19	30	-	-	-	-	-	-		
		10	43.1	10	4.0	4.6		15	-	-	-	9	13	22	12	17	27	-	-	-	-	-	-		
		15	52.6	15	5.1	5.9		22	-	-	-	10	14	21	12	15	23	-	-	-	-	-	-		
		20	60.7	20	6.0	7.2	30	5	4	7	12	7	10	14	8	11	16	9	13	18	11	18	22		
		25	67.7	25	7.0	8.3		10	4	7	10	7	9	14	9	11	16	9	14	20	11	15	21		
		29	74.2	29	7.9	9.4		15	4	7	9	6	8	13	7	10	16	9	12	19	11	15	24		
		35	80.1	35	8.8	10.4		22	-	-	-	6	8	13	8	11	15	9	12	18	11	15	22		
		40	85.6	40	9.6	11.6	40	5	4	7	9	6	7	11	7	10	14	8	11	15	10	14	18		
		46	90.7	46	10.6	12.7		10	4	6	9	6	8	12	7	9	14	8	11	17	9	13	19		
		51	95.5	51	11.3	13.7		15	4	6	8	5	7	11	7	9	15	8	11	16	9	13	19		
		58	102.7	58	12.8	15.5		22	4	5	8	5	7	11	6	9	14	7	11	18	9	13	18		
		176.209.1Y.01.00 176.409.1Y.01.00 176.509.1Y.01.00	0.10	2	21.7	2	1.1	2.0	15	5	8	12	18	11	15	24	13	18	28	16	21	30	18	26	32
				4	31.6	4	2.2	2.9		10	8	11	17	11	16	24	13	19	27	16	22	29	18	25	32
10	47.6			10	3.9	4.6	15	-		-	-	-	-	-	12	18	27	16	20	27	17	23	32		
15	58.4			15	5.0	5.9	22	-		-	-	-	-	-	12	18	27	15	21	30	17	23	32		
20	67.5			20	6.0	7.2	30	5	5	8	12	7	10	15	8	11	18	10	13	20	11	14	22		
25	75.4			25	6.8	8.3		10	5	7	11	7	9	14	8	11	18	9	13	22	11	15	24		
29	82.7			29	7.7	9.4		15	4	7	11	7	9	14	8	11	17	9	13	20	11	15	22		
35	89.5			35	8.7	10.4		22	-	-	-	-	-	-	8	10	17	9	12	18	10	15	22		
40	95.8			40	9.6	11.6	40	5	4	6	9	6	8	13	7	9	16	8	11	18	9	14	20		
46	101.7			46	10.4	12.7		10	4	6	9	6	7	12	7	9	16	8	11	18	9	14	22		
51	107.2			51	11.4	13.7		15	4	6	9	6	7	12	7	10	16	8	11	18	10	14	22		
58	115.4			58	12.8	15.5		22	4	6	8	6	7	12	7	10	16	8	11	18	9	13	20		
60	5			4	6	8	5	7	10	6	7	11	7	10	14	7	10	14	7	10	16				
	10			4	5	8	5	7	11	6	8	12	7	9	14	8	11	16	8	11	16				
	15	4	5	7	4	6	10	6	8	12	7	9	16	8	11	18	8	11	18						
	22	-	-	-	4	6	10	6	7	12	7	9	16	7	9	16	7	11	18						

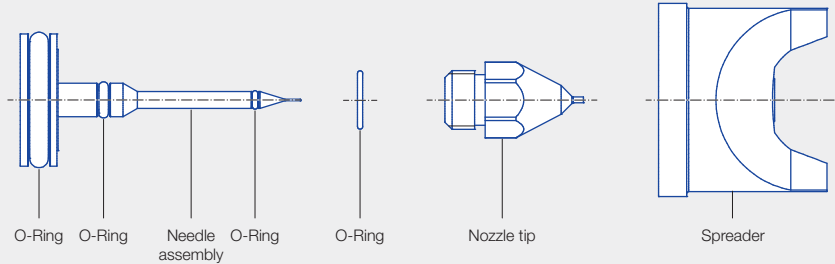
Notice:

The fourth digit in the order number (2, 4 or 5) stands for the housing variant (for details see Page139).

* A cone-shaped spray pattern is produced without fan air.

Spare parts set for pneumatic atomizing nozzles Series 176 ViscoMist

Overview of the spare parts set and the power set



Spare parts set

Spare parts set for replacing the main wear parts of the nozzle, consisting of:

- Needle (stainless steel 316L)
- O-rings (Viton)
- Nozzle tip (stainless steel 316L)

Power set

Power set for replacing the main wear parts of the nozzle and the air hood, consisting of:

- Needle (stainless steel 316L)
- O-rings (Viton)
- Nozzle tip (stainless steel 316L)
- Spreader (stainless steel 316L)

Ordering number	Narrowest free cross section Ø [in]	For nozzles
Type		
017.601.1Y.01	0.015	176.xx1.1Y.11.00
017.602.1Y.01	0.023	176.xx2.1Y.11.00
017.603.1Y.01	0.03	176.xx3.1Y.11.00
017.604.1Y.01	0.042	176.xx4.1Y.11.00
017.605.1Y.01	0.052	176.xx5.1Y.11.00
017.606.1Y.01	0.067	176.xx6.1Y.11.00
017.607.1Y.01	0.081	176.xx7.1Y.11.00
017.608.1Y.01	0.093	176.xx8.1Y.11.00
017.609.1Y.01	0.100	176.xx9.1Y.11.00

Ordering number	Narrowest free cross section Ø [in]	For nozzles
Type		
017.601.1Y.00	0.015	176.xx1.1Y.11.00
017.602.1Y.00	0.023	176.xx2.1Y.11.00
017.603.1Y.00	0.031	176.xx3.1Y.11.00
017.604.1Y.00	0.042	176.xx4.1Y.11.00
017.605.1Y.00	0.052	176.xx5.1Y.11.00
017.606.1Y.00	0.067	176.xx6.1Y.11.00
017.607.1Y.00	0.081	176.xx7.1Y.11.00
017.608.1Y.00	0.093	176.xx8.1Y.11.00
017.609.1Y.00	0.100	176.xx9.1Y.11.00

Notice:

Instructions for replacing individual or all components of the nozzles are included in the scope of delivery of the spare parts sets and the power sets.

O-ring set

Type	Ordering number		Consisting of 4 O-rings, suitable for all nozzles of series 176
	Material number		
	7A	6C	
	Viton	EPDM	
017.600.xx.01.03	●	●	

Viton (7A) is the standard O-ring material.
EPDM (6C) is optionally available.

Ordering Type + Material no. = Ordering no.
example: 017.600.xx.01.03 + 7A = 017.600.7A.01.03