



Release List

Mechanics

for production plants involving
engines, transmissions, under carriages, and foundry
of Volkswagen Group
"technology-specific part"

Release date: 01 January 2023
Version: 2.5

Change history

Version	Date:	Description of changes	Page
2.5	01.01.2023	addresses adjusted	8 - 9
2.4	01.01.2022	<p>New chapters:</p> <p>3.7.3 Safety-related locking/braking units 82</p> <p>3.9.3 Pulse Blow Valve 90</p> <p><u>Chapter updated:</u></p> <p>2.2 General information 10</p> <p>3.4.1 Valve manifold 56</p> <p>3.4.1.1 Valve manifold SY7000 with external pilot air control valve 57</p> <p>3.4.1.2 Valve manifold SY7000 without external pilot air control valve 58</p>	
2.3	01.01.2021	<p>New chapters:</p> <p>3.6.11.4 - maintenance unit air 78</p> <p><u>Update chapters:</u></p> <p>1- Contact persons 8 - 10</p> <p>2- comment 11</p> <p>3.1.1.6 - Compact cylinder DIN ISO 21287 - \varnothing 20 bis 80 mm 20, 21</p> <p>3.1.1.7 - Compact cylinder with guide rods- \varnothing 20 bis 80 mm 21, 22</p> <p>3.1.1.8 - Compact guide cylinder- \varnothing 12 bis 63 mm 22 - 25</p> <p>3.1.2.2 - Rodless cylinders with slide bearing 27 - 28</p> <p>3.3.1.1 - 5/2- and 5/3-way directional control valves, according to standard ISO 5599-1, Size 1 and accessories 37, 38</p> <p>3.3.1.2 - 5/2- and 5/3-way directional control valves, according to standard ISO 5599-1, Size 3 and accessories 39, 40</p> <p>3.3.1.3 - 5/2- and 5/3-way directional control valves according to standard ISO 15407-1 and accessories 41, 42</p> <p>3.3.3.2 - Pilot check valve with speed controller 45, 46</p> <p>3.3.4.1 - Speed controller with check valve, manual operation 50</p> <p>3.3.4.2 - Metering valve with silencer 51, 52</p> <p>3.3.4.3 - Inlet screw-in throttle check valves, manuell operation 52</p> <p>3.6.1.1 - Meter-in speed controller with check valve, 65</p> <p>3.6.6 - Filter 70, 71</p>	
2.2	01.01.2020	Revised	
2.1	01.01.2019	Revised	
2.0	01.08.2018	Revised	
1.9	01.01.2017	Revised	
1.8	01.01.2016	First issue	all

Annotation:

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Changes to content are highlighted in grey.

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2 Notes

2.1 Usage

The basis for the following release list is the Lastenheft Mechanik für die Komponenten-Fertigungen des Volkswagen Konzerns in the respective current issue. The respective requirements and restrictions must be followed.

2.2 General Information

All of the components listed in the following table can be used in the design of pneumatic systems in the plants listed on pages 8 - 10.

Only oil-free compressed air may be used.

The compilation of the component release list was carried out in cooperation with the members of the Specification Sheet Commission of the VW Group.

If a web link is included, it leads to the SMC Deutschland GmbH homepage.

Catalogues, CAD data, SISTEMA library, EPLAN macro library, etc. can be found there.

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The published calculations, CAD drawings, and CAD models are created by SMC with great care and the given information's accuracy is checked, however, they are without guarantee.

Sections may be incomplete, outdated or incorrect. Therefore, it is important to verify the information found in the release list before acting based on the information given here.

We can not take responsibility for the use of these information or for the incorrect or incomplete information.

The suitability of the circuit, plausibility check/test routine is the responsibility of the machine manufacturer.

Manifolds:

The maximum number of valve positions should generally not exceed 12.

This applies to the use of a SY7000 manifold without a cut-in valve for auxiliary pilot air.

When using a SY7000 manifold with a cut-in valve for auxiliary pilot air, the maximum number of valve positions should not exceed 13, i.e., 1 cut-in valve and 12 directional control valves.

Max. 9 i/o modules can be mounted on one SI unit!

Sub-busses are not permitted!

Air preparation units:

Pressure monitoring FRL units must include a pressure switch.

For this purpose, an electronical pressure switch from the Specification list or a separate mechanical pressure switch may be used.

Magnetic field sensors:


The position detection of a pneumatic actuator with built in magnet through magnetic field detection is not allowed. Exceptions have to be based on technical or constructional reasons and have to be approved by the relevant specialist division of the customer in written. The mounting position of the switches must be reproduceable. The mounting position of the switches must be reproducible.

3 Overview

3.1 Pneumatic actuators

3.1.1 Pneumatic cylinders


3.1.1.1 Standard cylinders according to DIN ISO 15552 - \varnothing 32 to 125 mm

Illustration	Part	Description	Web link
	Standard cylinder ISO 15552 Link to chapter 3.5.2 Magnetic field sensors Link to chapter 3.5.3.1 Direct mounting	Series CP96-C \varnothing : 32, 50, 63, 80, 100 mm Series CP96 \varnothing : 125 mm Stroke: 50 - 500 mm Double acting Adjustable air cushion Rod end male thread	CP96SDB...-C

Part	\varnothing [mm]	Stroke [mm]	Part number
Standard cylinder ISO 15552	32	25	CP96SDB32-25C
Standard cylinder ISO 15552	32	50	CP96SDB32-50C
Standard cylinder ISO 15552	32	80	CP96SDB32-80C
Standard cylinder ISO 15552	32	100	CP96SDB32-100C
Standard cylinder ISO 15552	32	125	CP96SDB32-125C
Standard cylinder ISO 15552	32	160	CP96SDB32-160C
Standard cylinder ISO 15552	32	200	CP96SDB32-200C
Standard cylinder ISO 15552	32	250	CP96SDB32-250C
Standard cylinder ISO 15552	32	320	CP96SDB32-320C
Standard cylinder ISO 15552	32	400	CP96SDB32-400C
Standard cylinder ISO 15552	32	500	CP96SDB32-500C
Standard cylinder ISO 15552	50	25	CP96SDB50-25C
Standard cylinder ISO 15552	50	50	CP96SDB50-50C
Standard cylinder ISO 15552	50	80	CP96SDB50-80C
Standard cylinder ISO 15552	50	100	CP96SDB50-100C
Standard cylinder ISO 15552	50	125	CP96SDB50-125C
Standard cylinder ISO 15552	50	160	CP96SDB50-160C
Standard cylinder ISO 15552	50	200	CP96SDB50-200C
Standard cylinder ISO 15552	50	250	CP96SDB50-250C
Standard cylinder ISO 15552	50	320	CP96SDB50-320C
Standard cylinder ISO 15552	50	400	CP96SDB50-400C
Standard cylinder ISO 15552	50	500	CP96SDB50-500C

Part	∅ [mm]	Stroke [mm]	Part number
Standard cylinder ISO 15552	63	25	CP96SDB63-25C
Standard cylinder ISO 15552	63	50	CP96SDB63-50C
Standard cylinder ISO 15552	63	80	CP96SDB63-80C
Standard cylinder ISO 15552	63	100	CP96SDB63-100C
Standard cylinder ISO 15552	63	125	CP96SDB63-125C
Standard cylinder ISO 15552	63	160	CP96SDB63-160C
Standard cylinder ISO 15552	63	200	CP96SDB63-200C
Standard cylinder ISO 15552	63	250	CP96SDB63-250C
Standard cylinder ISO 15552	63	320	CP96SDB63-320C
Standard cylinder ISO 15552	63	400	CP96SDB63-400C
Standard cylinder ISO 15552	63	500	CP96SDB63-500C
Standard cylinder ISO 15552	80	25	CP96SDB80-25C
Standard cylinder ISO 15552	80	50	CP96SDB80-50C
Standard cylinder ISO 15552	80	80	CP96SDB80-80C
Standard cylinder ISO 15552	80	100	CP96SDB80-100C
Standard cylinder ISO 15552	80	125	CP96SDB80-125C
Standard cylinder ISO 15552	80	160	CP96SDB80-160C
Standard cylinder ISO 15552	80	200	CP96SDB80-200C
Standard cylinder ISO 15552	80	250	CP96SDB80-250C
Standard cylinder ISO 15552	80	320	CP96SDB80-320C
Standard cylinder ISO 15552	80	400	CP96SDB80-400C
Standard cylinder ISO 15552	80	500	CP96SDB80-500C
Standard cylinder ISO 15552	100	25	CP96SDB100-25C
Standard cylinder ISO 15552	100	50	CP96SDB100-50C
Standard cylinder ISO 15552	100	80	CP96SDB100-80C
Standard cylinder ISO 15552	100	100	CP96SDB100-100C
Standard cylinder ISO 15552	100	125	CP96SDB100-125C
Standard cylinder ISO 15552	100	160	CP96SDB100-160C
Standard cylinder ISO 15552	100	200	CP96SDB100-200C
Standard cylinder ISO 15552	100	250	CP96SDB100-250C
Standard cylinder ISO 15552	100	320	CP96SDB100-320C
Standard cylinder ISO 15552	100	400	CP96SDB100-400C
Standard cylinder ISO 15552	100	500	CP96SDB100-500C
Standard cylinder ISO 15552	125	25	CP96SDB125-25
Standard cylinder ISO 15552	125	50	CP96SDB125-50
Standard cylinder ISO 15552	125	80	CP96SDB125-80
Standard cylinder ISO 15552	125	100	CP96SDB125-100
Standard cylinder ISO 15552	125	125	CP96SDB125-125

3.1.1.2 Standard cylinder according to DIN ISO 15552 - \varnothing 160 and 200 mm

Illustration	Part	Description	Web link
	Standard cylinder ISO 15552 Link to chapter 3.5.2 Magnetic field sensors Link to chapter 3.5.3.2 Mounting with brackets	Series C95 \varnothing : 160, 200 mm Stroke length: 50 - 500 mm Double acting Adjustable air cushion Rod end male thread	C95SDB

Part	\varnothing [mm]	Stroke [mm]	Part number
Normzylinder ISO 15552	125	160	CP96SDB125-160
Normzylinder ISO 15552	125	200	CP96SDB125-200
Normzylinder ISO 15552	125	250	CP96SDB125-250
Normzylinder ISO 15552	125	320	CP96SDB125-320
Normzylinder ISO 15552	125	400	CP96SDB125-400
Normzylinder ISO 15552	125	500	CP96SDB125-500
Normzylinder ISO 15552	160	25	C95SDB160-25
Normzylinder ISO 15552	160	50	C95SDB160-50
Normzylinder ISO 15552	160	80	C95SDB160-80
Normzylinder ISO 15552	160	100	C95SDB160-100
Normzylinder ISO 15552	160	125	C95SDB160-125
Normzylinder ISO 15552	160	160	C95SDB160-160
Normzylinder ISO 15552	160	200	C95SDB160-200
Normzylinder ISO 15552	160	250	C95SDB160-250
Normzylinder ISO 15552	160	320	C95SDB160-320
Normzylinder ISO 15552	160	400	C95SDB160-400
Normzylinder ISO 15552	160	500	C95SDB160-500
Normzylinder ISO 15552	200	25	C95SDB200-25
Normzylinder ISO 15552	200	50	C95SDB200-50
Normzylinder ISO 15552	200	80	C95SDB200-80
Normzylinder ISO 15552	200	100	C95SDB200-100
Normzylinder ISO 15552	200	125	C95SDB200-125
Normzylinder ISO 15552	200	160	C95SDB200-160
Normzylinder ISO 15552	200	200	C95SDB200-200
Normzylinder ISO 15552	200	250	C95SDB200-250
Normzylinder ISO 15552	200	320	C95SDB200-320
Normzylinder ISO 15552	200	400	C95SDB200-400
Normzylinder ISO 15552	200	500	C95SDB200-500

3.1.1.3 Mounting brackets for standard cylinder according to DIN ISO 15552



Illustration	Part	Description	Web link
	Axial foot	<p>L5 Series</p> <p>For cylinder CP96, ∅ 32 - 125 mm</p> <p>For cylinder C95, ∅ 160 - 200 mm</p> <p>1 pack (2 pieces)</p> <p>Mounting screws included</p>	L5
	Flange	<p>F5 series</p> <p>For cylinder CP96, ∅ 32 - 125 mm</p> <p>For cylinder C95, ∅ 160 - 200 mm</p> <p>Mounting screws included</p>	F5
	Single clevis	<p>C5 series</p> <p>For cylinder CP96, ∅ 32 - 125 mm</p> <p>For cylinder C95, ∅ 160 - 200 mm</p> <p>Mounting screws included</p> <p>Copatible with D Series</p>	C5
	Double clevis	<p>D5 series</p> <p>For cylinder CP96, ∅ 32 - 125 mm</p> <p>For cylinder C95, ∅ 160 - 200 mm</p> <p>Mounting screws included</p> <p>Compatible with C series</p>	D5

Illustration	Part	Description	Web link
	Clevis pivot bracket	E5 series For cylinder CP96, ø 32 - 125 mm Compatible with D series	E5
	Single clevis with ball joint	CS5 series For cylinder CP96, ø 32 - 125 mm Mounting screws included Compatible with DS series	CS5
	Double clevis pivot bracket	DS5 series For cylinder CP96, ø 32 - 125 mm Mounting screws included Compatible with CS and ES series	DS5
	Clevis pivot bracket with ball joint	ES5 series For cylinder CP96, ø 32 - 125 mm Compatible with DS series	ES5

Illustration	Part	Description	Web link
	Floating joint	JA series For cylinder CP96, ø 32 - 125 mm For cylinder C95, ø 160 - 200 mm	JA
	Rod clevis	GKM series For cylinder CP96, ø 32 - 125 mm For cylinder C95, ø 160 - 200 mm	GKM
	Rod end	KJ series For cylinder CP96, ø 32 - 125 mm For cylinder C95 ø 160 - 200 mm	KJ

3.1.1.4 Standard cylinder according to ISO 6432 - ø 10 to 25 mm

Illustration	Part	Description	Web link
	Standard cylinder ISO 6432 Link to chapter 3.5.2 Magnetic field sensors Link to chapter 3.5.3.2 Mounting with brackets	Serie C85 ø: 10, 16, 25 mm Stroke length: 25, 50, 100 mm Double acting Rubber bumper cushioning Rod end male thread	CD85N

Part	ø [mm]	Stroke [mm]	Part number
Standard cylinder ISO 6432	10	25	CD85N10-25-B

Part	∅ [mm]	Stroke [mm]	Part number
Standard cylinder ISO 6432	10	50	CD85N10-50-B
Standard cylinder ISO 6432	10	100	CD85N10-100-B
Standard cylinder ISO 6432	16	25	CD85N16-25-B
Standard cylinder ISO 6432	16	50	CD85N16-50-B
Standard cylinder ISO 6432	16	100	CD85N16-100-B
Standard cylinder ISO 6432	25	25	CD85N25-25-B
Standard cylinder ISO 6432	25	50	CD85N25-50-B
Standard cylinder ISO 6432	25	100	CD85N25-100-B

3.1.1.5 Mounting brackets for standard cylinders according to ISO 6432









Illustration		Part	Description	Web link
Series C85L...A 	Series C85L...B 	Axial foot	C85L...A series: 1 axial foot C85L...B series: 2 axial feet 1 mounting nut For cylinder C85, ∅ 10 - 25 mm	C85L
		Flange	C85F series For cylinder C85, ∅ 10 - 25 mm	C85F
		Trunnion	C85T series For cylinder C85, ∅ 10 - 25 mm	C85T
		Pivot bracket	C85C series For cylinder C85, ∅ 10 - 25 mm	C85C
		Rod end with ball joint	KJ series For cylinder C85, ∅ 10 - 25 mm	KJ
		Rod end double knuckle joint	GKM series For cylinder C85, ∅ 10 - 25 mm	GKM

Illustration	Part	Description	Web link
	Floating joint	JA series For cylinder C85, ø 10 - 25 mm	JA


3.1.1.6 Compact cylinder according to DIN ISO 21287 - ø 20 to 63 mm

Illustration	Part	Description	Web link
	Compact cylinder ISO 21287 Link to chapter 3.5.2 Magnetic field sensors Link to chapter 3.5.3.1 Direct mounting	C55 series ø: 20, 32, 50, 63, 80 mm Stroke length: 10, 20, 30, 40, 50 mm Double acting Rubber bumper cushioning Rod end female thread	CD55B

Part	ø [mm]	Stroke [mm]	Part number
Compact cylinder ISO 21287	20	10	CD55B20-10
Compact cylinder ISO 21287	20	20	CD55B20-20
Compact cylinder ISO 21287	20	30	CD55B20-30
Compact cylinder ISO 21287	20	40	CD55B20-40
Compact cylinder ISO 21287	20	50	CD55B20-50
Compact cylinder ISO 21287	32	10	CD55B32-10
Compact cylinder ISO 21287	32	20	CD55B32-20
Compact cylinder ISO 21287	32	30	CD55B32-30
Compact cylinder ISO 21287	32	40	CD55B32-40
Compact cylinder ISO 21287	32	50	CD55B32-50
Compact cylinder ISO 21287	40	10	CD55B40-10
Compact cylinder ISO 21287	40	20	CD55B40-20
Compact cylinder ISO 21287	40	30	CD55B40-30
Compact cylinder ISO 21287	40	40	CD55B40-40
Compact cylinder ISO 21287	40	50	CD55B40-50
Compact cylinder ISO 21287	50	10	CD55B50-10
Compact cylinder ISO 21287	50	20	CD55B50-20
Compact cylinder ISO 21287	50	30	CD55B50-30
Compact cylinder ISO 21287	50	40	CD55B50-40
Compact cylinder ISO 21287	50	50	CD55B50-50
Compact cylinder ISO 21287	63	10	CD55B63-10
Compact cylinder ISO 21287	63	20	CD55B63-20
Compact cylinder ISO 21287	63	30	CD55B63-30

Part	∅ [mm]	Stroke [mm]	Part number
Compact cylinder ISO 21287	63	40	CD55B63-40
Compact cylinder ISO 21287	63	50	CD55B63-50
Compact cylinder ISO 21287	80	10	CD55B80-10
Compact cylinder ISO 21287	80	20	CD55B80-20
Compact cylinder ISO 21287	80	30	CD55B80-30
Compact cylinder ISO 21287	80	40	CD55B80-40
Compact cylinder ISO 21287	80	50	CD55B80-50


3.1.1.7 Compact cylinder with guide rods - ∅ 20 to 80 mm

Illustration	Part	Description	Web link
	Compact cylinder With guide rods Link to chapter 3.5.2 Magnetic field sensors Link to chapter 3.5.3.1 Direct mounting	CQM series ∅: 20, 32, 50, 63, 80 mm Stroke length: 10, 20, 30, 40, 50 mm Double acting Rubber bumper	CDQMB

Part	∅ [mm]	Stroke [mm]	Part number
Compact cylinder	20	10	CDQMB20-10
Compact cylinder	20	20	CDQMB20-20
Compact cylinder	20	30	CDQMB20-30
Compact cylinder	20	40	CDQMB20-40
Compact cylinder	20	50	CDQMB20-50
Compact cylinder	32	10	CDQMB32TF10
Compact cylinder	32	20	CDQMB32TF-20
Compact cylinder	32	30	CDQMB32TF-30
Compact cylinder	32	40	CDQMB32TF-40
Compact cylinder	32	50	CDQMB32TF-50
Compact cylinder	40	10	CDQMB40TF-10
Compact cylinder	40	20	CDQMB40TF-20
Compact cylinder	40	30	CDQMB40TF-30
Compact cylinder	40	40	CDQMB40TF-40
Compact cylinder	40	50	CDQMB40TF-50
Compact cylinder	50	10	CDQMB50TF-10
Compact cylinder	50	20	CDQMB50TF-20
Compact cylinder	50	30	CDQMB50TF-30
Compact cylinder	50	40	CDQMB50TF-40
Compact cylinder	50	50	CDQMB50TF-50
Compact cylinder	63	10	CDQMB63TF-10

Part	ø [mm]	Stroke [mm]	Part number
Compact cylinder	63	20	CDQMB63TF-20
Compact cylinder	63	30	CDQMB63TF-30
Compact cylinder	63	40	CDQMB63TF-40
Compact cylinder	63	50	CDQMB63TF-50
Compact cylinder	80	10	CDQMB80TF-10
Compact cylinder	80	20	CDQMB80TF-20
Compact cylinder	80	30	CDQMB80TF-30
Compact cylinder	80	40	CDQMB80TF-40
Compact cylinder	80	50	CDQMB80TF-50

3.1.1.8 Compact guide cylinder - ø 12 to 63 mm

Illustration	Part	Description	Web link
	Compact guide cylinder Link to chapter 3.5.2 Magnetic field sensors Link to chapter 3.5.3.1 Direct mounting	MGPM-Z series, Slide bearing MGPL-Z series, Ball bushing ø: 12, 16, 25, 32, 50, 63 mm Stroke length: 10 - 200 mm Double acting Rubber bumper cushion on both ends	MGPM-Z MGPL-Z


Part	ø [mm]	Stroke [mm]	Type	Part number
Compact guide cylinder	12	10	Slide bearing	MGPM12-10Z
			Ball bushing	MGPL12-10Z
Compact guide cylinder	12	20	Slide bearing	MGPM12-20Z
			Ball bushing	MGPL12-20Z
Compact guide cylinder	12	25	Slide bearing	MGPM12-25Z
			Ball bushing	MGPL12-25Z
Compact guide cylinder	12	30	Slide bearing	MGPM12-30Z
			Ball bushing	MGPL12-30Z
Compact guide cylinder	12	40	Slide bearing	MGPM12-40Z
			Ball bushing	MGPL12-40Z
Compact guide cylinder	12	50	Slide bearing	MGPM12-50Z
			Ball bushing	MGPL12-50Z
Compact guide cylinder	12	75	Slide bearing	MGPM12-80Z
			Ball bushing	MGPL12-80Z
Compact guide cylinder	12	100	Slide bearing	MGPM12-100Z
			Ball bushing	MGPL12-100Z

Part	ø [mm]	Stroke [mm]	Type	Part number
Compact guide cylinder	16	10	Slide bearing	MGPM16-10Z
			Ball bushing	MGPL16-10Z
Compact guide cylinder	16	20	Slide bearing	MGPM16-20Z
			Ball bushing	MGPL12-20Z
Compact guide cylinder	16	25	Slide bearing	MGPM16-25Z
			Ball bushing	MGPL16-25Z
Compact guide cylinder	16	30	Slide bearing	MGPM16-30Z
			Ball bushing	MGPL16-30Z
Compact guide cylinder	16	40	Slide bearing	MGPM16-40Z
			Ball bushing	MGPL16-40Z
Compact guide cylinder	16	50	Slide bearing	MGPM16-50Z
			Ball bushing	MGPL16-50Z
Compact guide cylinder	16	75	Slide bearing	MGPM16-80Z
			Ball bushing	MGPL16-80Z
Compact guide cylinder	16	100	Slide bearing	MGPM16-100Z
			Ball bushing	MGPL16-100Z
Compact guide cylinder	25	20	Slide bearing	MGPM25TF-20Z
			Ball bushing	MGPL25TF-20Z
Compact guide cylinder	25	25	Slide bearing	MGPM25TF-25Z
			Ball bushing	MGPL25TF-25Z
Compact guide cylinder	25	30	Slide bearing	MGPM25TF-30Z
			Ball bushing	MGPL25TF-30Z
Compact guide cylinder	25	40	Slide bearing	MGPM25TF-40Z
			Ball bushing	MGPL25TF-40Z
Compact guide cylinder	25	50	Slide bearing	MGPM25TF-50Z
			Ball bushing	MGPL25TF-50Z
Compact guide cylinder	25	75	Slide bearing	MGPM25TF-80Z
			Ball bushing	MGPL25TF-80Z
Compact guide cylinder	25	100	Slide bearing	MGPM25TF-100Z
			Ball bushing	MGPL25TF-100Z
Compact guide cylinder	32	25	Slide bearing	MGPM32TF-25Z
			Ball bushing	MGPL32TF-25Z
Compact guide cylinder	32	40	Slide bearing	MGPM32TF-40Z
			Ball bushing	MGPL32TF-40Z
Compact guide cylinder	32	50	Slide bearing	MGPM32TF-50Z
			Ball bushing	MGPL32TF-50Z
Compact guide cylinder	32	75	Slide bearing	MGPM32TF-80Z
			Ball bushing	MGPL32TF-80Z
Compact guide cylinder	32	100	Slide bearing	MGPM32TF-100Z
			Ball bushing	MGPL32TF-100Z

Part	ø [mm]	Stroke [mm]	Type	Part number
Compact guide cylinder	32	125	Slide bearing	MGPM32TF-125Z
			Ball bushing	MGPL32TF-125Z
Compact guide cylinder	32	160	Slide bearing	MGPM32TF-160Z
			Ball bushing	MGPL32TF-160Z
Compact guide cylinder	32	200	Slide bearing	MGPM32TF-200Z
			Ball bushing	MGPL32TF-200Z
Compact guide cylinder	50	25	Slide bearing	MGPM50TF-25Z
			Ball bushing	MGPL50TF-25Z
Compact guide cylinder	50	50	Slide bearing	MGPM50TF-50Z
			Ball bushing	MGPL50TF-50Z
Compact guide cylinder	50	75	Slide bearing	MGPM50TF-80Z
			Ball bushing	MGPL50TF-80Z
Compact guide cylinder	50	100	Slide bearing	MGPM50TF-100Z
			Ball bushing	MGPL50TF-100Z
Compact guide cylinder	50	125	Slide bearing	MGPM50TF-125Z
			Ball bushing	MGPL50TF-125Z
Compact guide cylinder	50	160	Slide bearing	MGPM50TF-160Z
			Ball bushing	MGPL50TF-160Z
Compact guide cylinder	50	200	Slide bearing	MGPM50TF-200Z
			Ball bushing	MGPL50TF-200Z
Compact guide cylinder	63	25	Slide bearing	MGPM63TF-25Z
			Ball bushing	MGPL63TF-25Z
Compact guide cylinder	63	50	Slide bearing	MGPM63TF-50Z
			Ball bushing	MGPL63TF-50Z
Compact guide cylinder	63	75	Slide bearing	MGPM63TF-80Z
			Ball bushing	MGPL63TF-80Z
Compact guide cylinder	63	100	Slide bearing	MGPM63TF-100Z
			Ball bushing	MGPL63TF-100Z
Compact guide cylinder	63	125	Slide bearing	MGPM63TF-125Z
			Ball bushing	MGPL63TF-125Z
Compact guide cylinder	63	160	Slide bearing	MGPM63TF-160Z
			Ball bushing	MGPL63TF-160Z
Compact guide cylinder	63	200	Slide bearing	MGPM63TF-200Z
			Ball bushing	MGPL63TF-200Z

3.1.2 Rodless cylinders


3.1.2.1 Mechanically jointed rodless cylinder, basic type

Illustration	Part	Description	Web link
	Rodless cylinder Basic type	MY1B series ø: 32, 50, 63, 80, 100 mm Stroke length: 100 - 1000 mm Double acting Integrated air cushion + different shock absorber and str. adjustment possibilities Guide: Basic slide bearing (B)	MY1B-Z ø 32 mm MY1B ø 50 - 100 mm

Part	ø [mm]	Stroke [mm]	Part number
Basic type	32	100	MY1B32TFG-100Z
Basic type	32	125	MY1B32TFG-125Z
Basic type	32	160	MY1B32TFG-160Z
Basic type	32	200	MY1B32TFG-200Z
Basic type	32	250	MY1B32TFG-250Z
Basic type	32	320	MY1B32TFG-320Z
Basic type	32	400	MY1B32TFG-400Z
Basic type	32	500	MY1B32TFG-500Z
Basic type	32	1000	MY1B32TFG-1000Z
Basic type	50	100	MY1B50TFG-100
Basic type	50	125	MY1B50TFG-125
Basic type	50	160	MY1B50TFG-160
Basic type	50	200	MY1B50TFG-200
Basic type	50	250	MY1B50TFG-250
Basic type	50	320	MY1B50TFG-320
Basic type	50	400	MY1B50TFG-400
Basic type	50	500	MY1B50TFG-500
Basic type	50	1000	MY1B50TFG-1000
Basic type	63	100	MY1B63TFG-100
Basic type	63	125	MY1B63TFG-125
Basic type	63	160	MY1B63TFG-160
Basic type	63	200	MY1B63TFG-200
Basic type	63	250	MY1B63TFG-250
Basic type	63	320	MY1B63TFG-320
Basic type	63	400	MY1B63TFG-400
Basic type	63	500	MY1B63TFG-500

Part	ø [mm]	Stroke [mm]	Part number
Basic type	63	1000	MY1B63TFG-1000
Basic type	80	100	MY1B80TFG-100
Basic type	80	125	MY1B80TFG-125
Basic type	80	160	MY1B80TFG-160
Basic type	80	200	MY1B80TFG-200
Basic type	80	250	MY1B80TFG-250
Basic type	80	320	MY1B80TFG-320
Basic type	80	400	MY1B80TFG-400
Basic type	80	500	MY1B80TFG-500
Basic type	80	1000	MY1B80TFG-1000
Basic type	100	100	MY1B100TFG-100
Basic type	100	125	MY1B100TFG-125
Basic type	100	160	MY1B100TFG-160
Basic type	100	200	MY1B100TFG-200
Basic type	100	250	MY1B100TFG-250
Basic type	100	320	MY1B100TFG-320
Basic type	100	400	MY1B100TFG-400
Basic type	100	500	MY1B100TFG-500
Basic type	100	1000	MY1B100TFG-1000


3.1.2.2 Rodless cylinder with slide bearing

Illustration	Part	Description	Web link
	Rodless cylinder Slide bearing	Serie MY1M ø: 32, 50, 63 mm Stroke length: 100 - 1000 mm Double acting Integrated air cushion + different shock absorber and str. adjustment possibilities Guide: Slide bearing (M)	MY1M

Part	ø [mm]	Stroke [mm]	Part number
Slide Bearing Type	32	100	MY1M32TFG-100
Slide Bearing Type	32	125	MY1M32TFG-125
Slide Bearing Type	32	160	MY1M32TFG-160
Slide Bearing Type	32	200	MY1M32TFG-200
Slide Bearing Type	32	250	MY1M32TFG-250
Slide Bearing Type	32	320	MY1M32TFG-320
Slide Bearing Type	32	400	MY1M32TFG-400

Part	ø [mm]	Stroke [mm]	Part number
Slide Bearing Type	32	500	MY1M32TFG-500
Slide Bearing Type	32	1000	MY1M32TFG-1000
Slide Bearing Type	50	100	MY1M50TFG-100
Slide Bearing Type	50	125	MY1M50TFG-125
Slide Bearing Type	50	160	MY1M50TFG-160
Slide Bearing Type	50	200	MY1M50TFG-200
Slide Bearing Type	50	250	MY1M50TFG-250
Slide Bearing Type	50	320	MY1M50TFG-320
Slide Bearing Type	50	400	MY1M50TFG-400
Slide Bearing Type	50	500	MY1M50TFG-500
Slide Bearing Type	50	1000	MY1M50TFG-1000
Slide Bearing Type	63	100	MY1M63TFG-100
Slide Bearing Type	63	125	MY1M63TFG-125
Slide Bearing Type	63	160	MY1M63TFG-160
Slide Bearing Type	63	200	MY1M63TFG-200
Slide Bearing Type	63	250	MY1M63TFG-250
Slide Bearing Type	63	320	MY1M63TFG-320
Slide Bearing Type	63	400	MY1M63TFG-400
Slide Bearing Type	63	500	MY1M63TFG-500
Slide Bearing Type	63	1000	MY1M63TFG-1000

3.1.2.3 Rodless cylinder, cam follower guide type

Illustration	Part	Description	Web link
	Rodless Cylinder Cam follower guide type	MY1C Series ø: 32, 50, 63 mm Stroke length: 100 - 1000 mm Double acting Integrated air cushion + different shock absorber and str. adjustment possibilities Guide: Cam follower guide (C) Option -XC56 with H7 positioning borehole	MY1C


Part	ø [mm]	Stroke [mm]	Option	Part number
Cam Follower Guide Type	32	100		MY1C32TFG-100
			with H7 positioning borehole	MY1C32TFG-100-XC56
Cam Follower Guide Type	32	125		MY1C32TFG-125
			with H7 positioning borehole	MY1C32TFG-125-XC56
Cam Follower Guide Type	32	160		MY1C32TFG-160
			with H7 positioning borehole	MY1C32TFG-160-XC56
Cam Follower Guide Type	32	200		MY1C32TFG-200
			with H7 positioning borehole	MY1C32TFG-200-XC56
Cam Follower Guide Type	32	250		MY1C32TFG-250
			with H7 positioning borehole	MY1C32TFG-250-XC56
Cam Follower Guide Type	32	320		MY1C32TFG-320
			with H7 positioning borehole	MY1C32TFG-320-XC56
Cam Follower Guide Type	32	400		MY1C32TFG-400
			with H7 positioning borehole	MY1C32TFG-400-XC56
Cam Follower Guide Type	32	500		MY1C32TFG-500
			with H7 positioning borehole	MY1C32TFG-500-XC56
Cam Follower Guide Type	32	1000		MY1C32TFG-1000
			with H7 positioning borehole	MY1C32TFG-1000-XC56
Cam Follower Guide Type	50	100		MY1C50TFG-100
			with H7 positioning borehole	MY1C50TFG-100-XC56
Cam Follower Guide Type	50	125		MY1C50TFG-125

Part	∅ [mm]	Stroke [mm]	Option	Part number
			with H7 positioning borehole	MY1C50TFG-125-XC56
Cam Follower Guide Type	50	160		MY1C50TFG-160
			with H7 positioning borehole	MY1C50TFG-160-XC56
Cam Follower Guide Type	50	200		MY1C50TFG-200
			with H7 positioning borehole	MY1C50TFG-200-XC56
Cam Follower Guide Type	50	250		MY1C50TFG-250
			with H7 positioning borehole	MY1C50TFG-250-XC56
Cam Follower Guide Type	50	320		MY1C50TFG-320
			with H7 positioning borehole	MY1C50TFG-320-XC56
Cam Follower Guide Type	50	400		MY1C50TFG-400
			with H7 positioning borehole	MY1C50TFG-400-XC56
Cam Follower Guide Type	50	500		MY1C50TFG-500
			with H7 positioning borehole	MY1C50TFG-500-XC56
Cam Follower Guide Type	50	1000		MY1C50TFG-1000
			with H7 positioning borehole	MY1C50TFG-1000-XC56
Cam Follower Guide Type	63	100		MY1C63TFG-100
			with H7 positioning borehole	MY1C63TFG-100-XC56
Cam Follower Guide Type	63	125		MY1C63TFG-125
			with H7 positioning borehole	MY1C63TFG-125-XC56
Cam Follower Guide Type	63	160		MY1C63TFG-160
			with H7 positioning borehole	MY1C63TFG-160-XC56

Part	ø [mm]	Stroke [mm]	Option	Part number
Cam Follower Guide Type	63	200		MY1C63TFG-200
			with H7 positioning borehole	MY1C63TFG-200-XC56
Cam Follower Guide Type	63	250		MY1C63TFG-250
			with H7 positioning borehole	MY1C63TFG-250-XC56
Cam Follower Guide Type	63	320		MY1C63TFG-320
			with H7 positioning borehole	MY1C63TFG-320-XC56
Cam Follower Guide Type	63	400		MY1C63TFG-400
			with H7 positioning borehole	MY1C63TFG-400-XC56
Cam Follower Guide Type	63	500		MY1C63TFG-500
			with H7 positioning borehole	MY1C63TFG-500-XC56
Cam Follower Guide Type	63	1000		MY1C63TFG-1000
			with H7 positioning borehole	MY1C63TFG-1000-XC56


3.1.3 Rotary actuators

3.1.3.1 Rotary actuator, rack and pinion type

Illustration	Part	Description	Web link
	Rotary actuator Rack and pinion type Link to chapter 3.5.2 Magnetic field sensors Link to chapter 3.5.3.2 Mounting with bracket	CRA1-Z series Size: 30, 50, 63, 80, 100 Rotation angle: 90° / 180° Torque: 0,3 - 89 Nm Air cushion	CDRA1BS...-...CZ


Part	Size	Rotation angle [°]	Part number
Rotary Actuator	30	90	CDRA1BS30-90CZ
Rotary Actuator	30	180	CDRA1BS30-180CZ
Rotary Actuator	50	90	CDRA1BS50TF-90CZ
Rotary Actuator	50	180	CDRA1BS50TF-180CZ
Rotary Actuator	63	90	CDRA1BS63TF-90CZ
Rotary Actuator	63	180	CDRA1BS63TF-180CZ
Rotary Actuator	80	90	CDRA1BS80TF-90CZ
Rotary Actuator	80	180	CDRA1BS80TF-180CZ
Rotary Actuator	100	90	CDRA1BS100TF-90CZ
Rotary Actuator	100	180	CDRA1BS100TF-180CZ

3.1.3.2 Rotary table, rack and pinion type

Illustration	Part	Description	Web link
	Rotary table Rack and pinion type Link to chapter 3.5.2 Magnetic field sensors Link to chapter 3.5.3.1 Direct mounting	MSQB series Size: 10, 20, 30, 50 70, 100, 200 Rotation angle: 0 - 190° Torque: 0,017 - 24 Nm Cushioning: – Shock absorber (R) – Adjustment bolt (A)	MSQB

Part	Size	Rotation angle [°]	Part number
Rotary Table	10	0 - 190	MSQB10...
Rotary Table	20	0 - 190	MSQB20...
Rotary Table	30	0 - 190	MSQB30...-XF
Rotary Table	50	0 - 190	MSQB50...-XF
Rotary Table	70	0 - 190	MSQB70...-XF
Rotary Table	100	0 - 190	MSQB100...-XF
Rotary Table	200	0 - 190	MSQB200...-XF

3.1.3.3 Rotary actuator, vane type, with angle adjuster unit


Illustration	Part	Description	Web link
	Rotary actuator, direct mounting Vane type Link to chapter 3.5.2 Magnetic field sensors Link to chapter 3.5.3.1 Direct mounting	CRBU2WU-Z series Size: 10, 15, 20, 30, 40 Rotation angle: 0 - 270° Torque: 0,08 - 9,5 Nm Cushion: Rubber bumper	CDRBU2WU...-...Z

Part	Size	Rotation angle [°]	Part number
Rotary Actuator	10	270	CDRBU2WU10-270SZ
Rotary Actuator	15	270	CDRBU2WU15-270SZ
Rotary Actuator	20	270	CDRBU2WU20-270SZ
Rotary Actuator	30	270	CDRBU2WU30-270SZ
Rotary Actuator	40	270	CDRBU2WU40-270SZ

3.2 Vacuum technology


3.2.1 Vacuum ejectors

3.2.1.1 Vacuum ejector, box style

Illustration	Part	Description	Web link
	Vacuum Ejector Box style	ZH series Nozzle diameter: 0,5; 0,7; 1,0; 1,3 mm Max. Vacuum: - 0,88 bar Inline type Compact and low weight Integrated silencer Connection: One-touch fitting or threaded type	ZH-A

Part	Nozzle- \varnothing [mm]	Connection		Part number
		Supply air	Vacuum	
Vacuum Ejector	0,5	\varnothing 6 mm	\varnothing 6 mm	ZH05BSA-06-06
Vacuum Ejector	0,5	\varnothing 6 mm	G 1/8	ZH05BSA-06-F01
Vacuum Ejector	0,5	G 1/8	G 1/8	ZH05BSA-F01-F01
Vacuum Ejector	0,7	\varnothing 6 mm	\varnothing 6 mm	ZH07BSA-06-06
Vacuum Ejector	0,7	\varnothing 6 mm	G 1/8	ZH07BSA-06-F01
Vacuum Ejector	0,7	G 1/8	G 1/8	ZH07BSA-F01-F01
Vacuum Ejector	1,0	\varnothing 6 mm	\varnothing 6 mm	ZH10BSA-06-06
Vacuum Ejector	1,0	\varnothing 6 mm	G 1/8	ZH10BSA-06-F01
Vacuum Ejector	1,0	G 1/8	G 1/8	ZH10BSA-F01-F01
Vacuum Ejector	1,3	\varnothing 8 mm	\varnothing 10 mm	ZH13BSA-08-10
Vacuum Ejector	1,3	\varnothing 8 mm	G 1/4	ZH13BSA-08-F02
Vacuum Ejector	1,3	G 1/8	G 1/4	ZH13BSA-F01-F02

3.2.1.2 Vacuum ejector with operating valves and vacuum switch


Illustration	Part	Description	Web link
	Vacuum Ejector With operating valves and vacuum switch	ZK2 series Nozzle diameter: 0,7; 1,0; 1,2; 1,5 mm Max. Vacuum: - 0,91 bar Operating pressure: 3 - 6 bar Operatin voltage 24 V DC Integrated supply and release valve Throttle valve for precise regulation of release air impulse Energy saving type: Integrated vacuum switch that turns off supply air after reaching the required vacuum level. 2 Stage vacuum ejector	ZK2A...-...-K

Part	Nozzle - \varnothing [mm]	Connection		Part number
		Supply air	Vacuum	
Vacuum Ejector	0,7	\varnothing 6 mm	\varnothing 6 mm	ZK2A07K5RW-06-K
Vacuum Ejector	0,7	\varnothing 6 mm	\varnothing 8 mm	ZK2A07K5RW-08-K
Vacuum Ejector	1,0	\varnothing 6 mm	\varnothing 6 mm	ZK2A10K5RW-06-K
Vacuum Ejector	1,0	\varnothing 6 mm	\varnothing 8 mm	ZK2A10K5RW-08-K
Vacuum Ejector	1,2	\varnothing 6 mm	\varnothing 6 mm	ZK2A12K5RW-06-K
Vacuum Ejector	1,2	\varnothing 6 mm	\varnothing 8 mm	ZK2A12K5RW-08-K
Vacuum Ejector	1,5	\varnothing 6 mm	\varnothing 6 mm	ZK2A15K5RW-06-K
Vacuum Ejector	1,5	\varnothing 6 mm	\varnothing 8 mm	ZK2A15K5RW-08-K

3.3 Valves

3.3.1 Electrically and pneumatically operated standard directional control valves


3.3.1.1 5/2- and 5/3-way valves according to standard ISO 5599-1, Size 1, and accessories

Illustration	Part	Description	Web link
	Standard Valve ISO 5599-1 Size 1	EVS7 series Connection size: G 1/4, G 3/8 Flow rate: 1100 l/min Operating voltage: 24 V DC M12 centralized connector With sub plate <ul style="list-style-type: none"> – Electrically operated, internal pilot type – Pneumatically operated 	EVS7 Document EVS7 CAD

Part	Operation	Description	Part number
Standard Valve ISO 5599-1, Size 1	electric	5/2-Way, Monostable	EVS7-6-FG-S-3ZRM0-Q
Standard Valve ISO 5599-1, Size 1	electric	5/2-Way, Bistable	EVS7-6-FG-D-3ZRM0-Q
Standard Valve ISO 5599-1, Size 1	electric	5/3-Way, Exhaust centre	EVS7-6-FJG-D-3ZRM0-Q
Standard Valve ISO 5599-1, Size 1	electric	5/3-Way, Pressure centre	EVS7-6-FIG-D-3ZRM0-Q
Standard Valve ISO 5599-1, Size 1	pneumatic	5/2-Way, Bistable	EVSA7-6-FG-D-2
Standard Valve ISO 5599-1, Size 1	pneumatic	5/3-Way, Exhaust centre	EVSA7-6-FJG-D-2
Standard Valve ISO 5599-1, Size 1	pneumatic	5/3-Way, Pressure centre	EVSA7-6-FIG-D-2
Endplate set L+R		Size 1, Connection G 3/8, Exhaust G 3/8, Control air G 1/8	EAXT502-2RL-A

Part	Operation	Description	Part number
Manifold block		Size 1, Connection G 1/4, Exhaust G 1/4, Control air G 1/8	EAXT502-1A-A02-L
Manifold block		Size 1 Connection G 3/8, Exhaust G 3/8, Control air G 1/8	EAXT502-1A-A03-L
Blanking plate		Size 1	AXT502-9A
Sub-plate		Size 1, Connection G 1/4, Exhaust G 3/8, Control air G 1/8	EVS7-1-A02F
Sub-plate		Size 1, Connection G 3/8, Exhaust G 3/8, Control air G 1/8	EVS7-1-A03F


3.3.1.2 5/2- and 5/3-way valves, according to standard ISO 5599-1, Size 3, and accessories

Illustration	Part	Description	Web link
	Standard Valve ISO 5599-1 Size 3	EVS7 series Connection size: G 3/4 Flow rate: 3900 l/min Operating voltage: 24 V DC M12 centralized connector With sub plate <ul style="list-style-type: none"> – Electrically operated, internal pilot type – Pneumatically operated 	EVS7 Document EVS7 CAD

Part	Operation	Description	Part number
Standard Valve ISO 5599-1, Size 3	electric	5/2-way, Monostable	EVS7-10-FG-S-3ZRM0-Q
Standard Valve ISO 5599-1, Size 3	electric	5/2-way, Bistable	EVS7-10-FG-D-3ZRM0-Q
Standard Valve ISO 5599-1, Size 3	electric	5/3-way, Exhaust centre	EVS7-10-FJG-D-3ZRM0-Q
Standard Valve ISO 5599-1, Size 3	electric	5/3-way, Pressure centre	EVS7-10-FIG-D-3ZRM0-Q
Standard Valve ISO 5599-1, Size 3	pneumatic	5/2-way, Bistable	EVSA7-10-FG-D-2
Standard Valve ISO 5599-1, Size 3	pneumatic	5/3-way, Exhaust centre	EVSA7-10-FJG-D-2
Standard Valve ISO 5599-1, Size 3	pneumatic	5/3-way, Pressure centre	EVSA7-10-FIG-D-2
Endplate set L+R		Size 3, Connection G1	EAXT522-2RL-VD
Manifold block		Size 3, Connection G1/2, Exhaust G1/2, Control air G1/8	EAXT522-1-VD


Part	Operation	Description	Part number
Blanking plate		Size 3	EAXT522-9A
Sub plate		Size 3, Connection G1/2, Exhaust G3/4, Control air G1/8	VS7-3-A04F
Sub plate		Size 3, Connection G3/4, Exhaust G3/4, Control air G 1/8	EVS7-3-A06F
Sub plate		Size 1, Connection G1/4	VS7-1-B02F
Sub plate		Size 1, Connection G3/8, Exhaust G3/8, Control air G1/8	VS7-2-B04F

3.3.1.3 5/2- and 5/3-way valves according to standard ISO 15407-1 and accessories

Illustration	Part	Description	Web link
	Standard Valve ISO 15407-1 Size 1	EVS1 series Connection: G 1/4 Flow rate: 1000 l/min Operatin voltage: 24 VDC M12 centralized connector With sub plate <ul style="list-style-type: none"> – Electrically operated, internal pilot type – Pneumatically operated 	EVS1 Valve EVS1 Accessories


Part	Operation	Description	Part number
Standard Valve ISO 15407-1, Size 1	electric	2 × 3/2-way, N.C.-N.C.	EVS1-01-FG-D-3ZRM0-X60A-Q
Standard Valve ISO 15407-1, Size 1	electric	5/2-way, monostable	EVS1-01-FG-S-3ZRM0-Q
Standard Valve ISO 15407-1, Size 1	electric	5/2-way, bistable	EVS1-01-FG-D-3ZRM0-Q
Standard Valve ISO 15407-1, Size 1	electric	5/3-way, exhaust centre	EVS1-01-FJG-D-3ZRM0-Q
Standard Valve ISO 15407-1, Size 1	electric	5/3-way, pressure centre	EVS1-01-FIG-D-3ZRM0-Q
Endplate, right side		Size 1, Connection G 3/8, Exhaust G 3/8, Control air G 1/8	MES704U-03F
Endplate, left side		Size 1, Connection G 3/8, Exhaust G 3/8, Control air G 1/8	MES704D-03F
Manifold block		Size 1, Connection G 1/4, Exhaust G 1/4	MBS7040-02F
Blanking-plate		Size 1	MES704U-03F
Sub plate		Size 1, Connection G 3/8, Exhaust G 3/8, Control air G 1/8	MES704D-03F

3.3.1.4 5/2-way valves, VDI/VDE 3845 - NAMUR

Illustration	Part	Description	Web link
	Standard Valve NAMUR VDI/VDE 3845	Series VFN2000N Connection: G 1/4 Flow rate: 85 l/min Operating voltage: 24 V DC w/o wire Electrical connection acc. to DIN EN 175301-803, Type B (former DIN 43650, Type B) Direct installation on NAMUR-conform Industrial valve actuators	VFN2...20N-...-02...Q


Part	Operation	Description	Part number
Standard Valve NAMUR VDI/VDE 3845	Electric	5/2-way, monostable	VFN2120N-5YO-02F-Q
Standard Valve NAMUR VDI/VDE 3845	Electric	5/2-way, bistable	VFN2220N-5YO-02F-Q

3.3.1.5 Accessories for valves according to VDI/VDE 3845 - NAMUR

Illustration	Part	Description	Web link
	DIN connector	For electrical connection acc. to DIN EN 175301- 803, Type B (former DIN 43650, Type B) Type B (10 mm) M12, elbow type 24 V AC $\pm 20\%$ / DC $\pm 25\%$ LED and surge voltage suppressor 3-pole	

Part	Connection	Description	Part number
Electrical connector	M12, 3-pole	Type B, 10 mm	7000-41961-0000000


3.3.2 Mechanically operated directional valves

Illustration	Part	Description	Web link
	Mechanical valve with roller lever	VM400 series 3/2-way valve, N.C. and N.O. Connection: G 1/8 Flow rate: 330 l/min Actuator: hard steel roller	EVM430-F01-01S

Part	Operation	Description	Part number
Mechanical valve	Mechanical	3/2-Way, normally closed (N.C.) or normally open (N.O.)	EVM430-F01-01S


3.3.3 Shut-off valves

3.3.3.1 Check valves

Illustration	Part	Description	Web link
	Check valve	EAK series Thread size: G 1/8, G 1/4, G 3/8, G 1/2, G 3/4, G 1 Flow rate: 1400-13500 l/min Check valve Full metal type Threaded on both sides	EAK



Part	Connection	Flow rate [l/min]	Part number
Check valve	G 1/8	1400	EAK2000-F01
Check valve	G 1/4	1600	EAK2000-F02
Check valve	G 3/8	4900	EAK4000-F03
Check valve	G 1/2	5500	EAK4000-F04
Check valve	G 3/4	11700	EAK6000-F06
Check valve	G 1	13500	EAK6000-F10

3.3.3.2 Pilot check valve with speed controller

Illustration	Part	Description	Web link
	Check Valve Pneumatically operated	ASP series Thread size: R 1/8, R 1/4, R 3/8 G 1/4, G 3/8, G 1/2 Applicable tube: ø 6, 8, 10, 12 mm Flow rate: 180 - 1190 l/min Can be used just with residual pressure release valve series KEB, KEC	ASP...30F-...S


Part	Thread size, App. tube ø	Flow rate [l/min]	Part number
Pilot check valve	Male thread R 1/8, Pilot port M5, Tube 6 mm	180	ASP330F-01-06S
Pilot check valve	Male thread R 1/8, Pilot port M5, Tube 8 mm	180	ASP330F-01-08S
Pilot check valve	Male thread R 1/4, Pilot port G 1/8, Tube 6 mm	330	ASP430F-F02-06S
Pilot check valve	Male thread R 1/4, Pilot port R 1/8, Tube 6 mm	330	ASP430F-02-06S Use with residual pressure release valve KEC-02
Pilot check valve	Male thread R 1/4, Pilot port G 1/8, Tube 8 mm	350	ASP430F-F02-08S
Pilot check valve	Male thread R 1/4, Pilot port R 1/8, Tube 8 mm	350	ASP430F-02-08S Use with residual pressure release valve KEC-02
Pilot check valve	Male thread R 3/8, Pilot port G 1/8, Tube 8 mm	600	ASP530F-F03-08S
Pilot check valve	Male thread R 3/8, Pilot port R 1/8, Tube 8 mm	600	ASP530F-03-08S Use with residual pressure release valve KEC-03
Pilot check valve	Male thread R 3/8, Pilot port G 1/8, Tube 10 mm	750	ASP530F-F03-10S
Pilot check valve	Male thread R 3/8, Pilot port R 1/8, Tube 10 mm	750	ASP530F-03-10S Use with residual pressure release valve KEC-03

Part	Thread size, App. tube ø	Flow rate [l/min]	Part number
Pilot check valve	Male thread R 1/2, Pilot port G 1/4, Tube 10 mm	1100	ASP630F-F04-10S
Pilot check valve	Male thread R 1/2, Pilot port G 1/4, Tube 12 mm	1190	ASP630F-F04-12S


Illustration		Part	Description	Web link
<p>KEB series</p> 	<p>KEC series</p> 	Residual Pressure Release Valve	<p>KE series</p> <p>Applicable tube size: ø 6, 8, 10, 12 mm</p> <p>Flow rate: 660 - 2900 l/min</p> <p>KEC series</p> <p>Thread size: R 1/4, R 3/8</p> <p>Flow rate: 1300 - 2900 l/min</p> <p>Push button guard</p>	<p>KEB</p> <p>KEC</p> <p>KE Document</p>

Part	Thread size, App. tube ø	Flow rate [l/min]	Part number
Residual Pressure Release Valve	App. tube ø 6 mm	660 Release flow rate: 90	KEB06
Residual Pressure Release Valve	App. tube ø 8 mm	1300 Release flow rate: 90	KEB08
Residual Pressure Release Valve	App. tube ø 10 mm	2100 Release flow rate: 90	KEB10
Residual Pressure Release Valve	App. tube ø 12 mm	2900 Release flow rate: 90	KEB12
Residual Pressure Release Valve	Female thread R 1/4	1300 Release flow rate: 90	KEC-02
Residual Pressure Release Valve	Female thread R 3/8	2900 Release flow rate: 90	KEC-03

3.3.3.3 Quick exhaust valve


Illustration	Part	Description	Web link
	Quick Exhaust Valve	AQ series Thread size: G 1/8, G 1/4, G 3/8, G 1/2, G 3/4 Flow rate: 1400 - 7900 l/min Release flow rate: 1400 - 10500 l/min Metal type Threaded on both sides	AQ...-F

Part	Thread size	Flow rate [l/min]	Part number
Quick Exhaust Valve	G 1/8	1.400 Rel.: 1400	AQ2000-F01
Quick Exhaust Valve	G 1/4	2.300 Rel.: 2400	AQ3000-F02
Quick Exhaust Valve	G 3/8	3.500 Rel.: 4100	AQ3000-F03
Quick Exhaust Valve	G 1/2	6100 Rel.: 6750	AQ5000-F04
Quick Exhaust Valve	G 3/4	7900 Rel.: 10500	AQ5000-F06

Illustration	Part	Description	Web link
	Quick Exhaust Valves	ASV series Thread size: R 1/8, R 1/4, R 3/8, R 1/2, R 3/4 Applicable tube size: ø 6, 8,10,12 mm Flow rate: 410 - 1500 l/min Release flow: 470 - 1700 l/min Exhaust speed controller	ASV...OF


Part	Thread size, App. Tube \varnothing	Flow rate [l/min]	Part number
Quick exhaust valves	R 1/8, \varnothing 6 mm	410 Rel.: 470	ASV310F-01-06S
Quick exhaust valves	R 1/8, \varnothing 8 mm	410 Rel.: 470	ASV310F-01-08S
Quick exhaust valves	R 1/4, \varnothing 8 mm	790 Rel.: 820	ASV410F-02-08S
Quick exhaust valves	R 1/4, \varnothing 10 mm	790 Rel.: 820	ASV410F-02-10S
Quick exhaust valves	R 1/4, \varnothing 12 mm	1300 Rel.: 1500	ASV510F-02-12S
Quick exhaust valves	R 3/8, \varnothing 10 mm	1500 Rel.: 1700	ASV510F-03-10S
Quick exhaust valves	R 3/8, \varnothing 12 mm	1500 Rel.: 1700	ASV510F-03-12S
Quick exhaust valves	R 1/2, \varnothing 10 mm	1500 Rel.: 1700	ASV510F-04-10S
Quick exhaust valves	R 1/2, \varnothing 12 mm	1500 Rel.: 1700	ASV510F-04-12S

3.3.3.4 Logic elements, OR valve with one-touch fittings

Illustration	Part	Description	Web link
	OR valve	VR12...0F series Applicable tube size: \varnothing 4, 6, 8, 10 mm Flow rate: 210 - 1000 l/min OR Funktion One-touch fittings	VR12...0F

Part	Applicable tube size [mm]	Flow rate [l/min]	Part number
OR valve	\varnothing 4	210	VR1210F-04
OR valve	\varnothing 6	440	VR1220F-06
OR valve	\varnothing 8	680	VR1220F-08
OR valve	\varnothing 10	1000	VR1220F-10


3.3.3.5 Logic elements, AND valve with one touch fittings

Illustration	Part	Description	Web link
	AND valve	VR12...1F series Applicable tube size: ø 4, 6 mm Flow rate: 120 - 150 l/min AND funktion One-touch fittings	VR1211F


Part	Applicable tube size [mm]	Flow rate [l/min]	Part number
AND valve	ø 4	120	VR1211F-04
AND valve	ø 6	150	VR1211F-06

3.3.4 Flow control equipment

3.3.4.1 Speed controller with check valve, manual operation


Illustration	Part	Description	Web link
	Speed controller Meter-out	AS-D series Thread size: M5, G 1/8, G 1/4, G 3/8, G 1/2 Flow rate: 105 - 1700 l/min Throttle check valve Metal body type Threaded connections Elbow type Adjustable with flat-head screwdriver	AS...2...0-...-D

Part	Thread size Female thread	Thread size Male thread	Flow rate [l/min]	Part number
Speed controller	M5	M5	105	AS1200-M5-D
Speed controller	G 1/8	G 1/8	230	AS2200-G01-X396
Speed controller	G 1/4	G 1/4	460	AS2200-G02-X396
Speed controller	G 3/8	G 3/8	920	AS3200-G03-X396
Speed controller	G 1/2	G 1/2	1700	AS4200-G04-X396

Illustration	Part	Description	Web link
	Speed controller Meter-out	EAS series Thread size: M5, G 1/8, G 1/4, G 3/8, G 1/2 Flow rate: 250 - 1670 l/min Throttle check valve Metal body type Threaded connections In-line type	EAS [Link to the same article with Rc-thread]


Part	Thread size	Flow rate [l/min]	Part number
Speed controller	M5	80	AS1000-M5
Speed controller	G 1/8	250	EAS2000-F01
Speed controller	G 1/4	810	EAS3000-F02
Speed controller	G 3/8	810	EAS3000-F03
Speed controller	G 1/2	1670	EAS4000-F04

3.3.4.2 Metering valve with silencer

Illustration	Part	Description	Web link
	Metering valve with silencer	ASN2 series Thread size: M5, R 1/8, R 1/4, R 3/8, R 1/2 Flow rate: 107 - 1510 l/min Sound reducing performance: < 20 dB (A)	ASN2




Part	Thread size	Flow rate [l/min]	Part number
Metering valve with silencer	M5	170	ASN2-M5
Metering valve with silencer	R 1/8	310	ASN2-01-S
Metering valve with silencer	R 1/4	430	ASN2-02-S
Metering valve with silencer	R 3/8	1050	ASN2-03-S
Metering valve with silencer	R 1/2	1510	ASN2-04-S

3.3.4.3 Meter-in speed controller with check valve, threaded type, manual operation

Illustration	Part	Description	Web link
	Speed controller Meter-in type	AS-D series Thread size: M5, G 1/8, G 1/4, G 3/8, G 1/2 Flow rate: 105 - 1700 l/min Throttle check valve Metal body type Threaded connection Elbow type Adjustable by flat-head screwdriver	AS...2...0-...-D

Part	Thread size	Thread size	Flow rate [l/min]	Part number
	Female thread	Male thread		
Speed controller	M5	M5	80	AS1210-M5-D
Speed controller	G 1/8	G 1/8	250	AS2210-G01-X396
Speed controller	G 1/4	G 1/4	810	AS2210-G02-X396
Speed controller	G 3/8	G 3/8	810	AS3210-G03-X396
Speed controller	G 1/2	G 1/2	1670	AS4210-G04-X396

3.3.5 Air saving valve

Illustration	Part	Description
<p>Speed controller ASQ</p> 	Air saving valve	<p>For air consumption reduction:</p> <ul style="list-style-type: none"> Application according to chapter 3.3.5.1 A speed controller valve ASQ for the working stroke and an ASR pressure control valve for the return stroke. Application according to chapter 3.3.5.2 a dual speed controller valve ASD for the working stroke and an ASR pressure control valve for the return stroke. <p><u>Principle:</u> Working stroke with normal work pressure, return stroke with reduced air pressure</p> <p>Refer to setting instructions from ASQ/ASR Catalogue to ASQ/ASR series</p> <p>Equal operation in working and return stroke</p> <p>No cycle-time loss</p>
<p>Pressure regulator ASR</p> 		
<p>Dual speed controller ASD</p> 		

3.3.5.1 Air saving valve – horizontal working stroke or vertical working stroke with upward piston rod with a ratio of weight of the load to cylinder force $\leq 50\%$





Illustration	Part	Description	Web link
	Speed control valve	<p>ASQ series => for working stroke</p> <p>Thread size: R 1/4, R 3/8, R 1/2</p> <p>Applicable tube: ∅ 6, 8, 10, 12 mm</p> <p>Max operating pressure: 10 bar</p>	ASQ...30F-...S

Illustration	Part	Description	Web link
	Pressure regulator valve	ASR series=> for return stroke Thread size: R 1/4, R 3/8, R 1/2 Applicable tube: ø 6, 8, 10,12 mm Set pressure range: 1 - 3 bar Max operating pressure: 10 bar	ASR...30F-...S

Part	Thread size	Applicable tube [mm]	Part number
Speed controller	R 1/4	ø 6	ASQ430F-02-06S
Pressure regulator	R 1/4	ø 6	ASR430F-02-06S
Speed controller	R 1/4	ø 8	ASQ430F-02-08S
Pressure regulator	R 1/4	ø 8	ASR430F-02-08S
Speed controller	R 1/4	ø 10	ASQ430F-02-10S
Pressure regulator	R 1/4	ø 10	ASR430F-02-10S
Speed controller	R 1/4	ø 6	ASQ530F-02-06S
Pressure regulator	R 1/4	ø 6	ASR530F-02-06S
Speed controller	R 1/4	ø 8	ASQ530F-02-08S
Pressure regulator	R 1/4	ø 8	ASR530F-02-08S
Speed controller	R 1/4	ø 10	ASQ530F-02-10S
Pressure regulator	R 1/4	ø 10	ASR530F-02-10S
Speed controller	R 1/4	ø 12	ASQ530F-02-12S
Pressure regulator	R 1/4	ø 12	ASR530F-02-12S
Speed controller	R 3/8	ø 6	ASQ530F-03-06S
Pressure regulator	R 3/8	ø 6	ASR530F-03-06S
Speed controller	R 3/8	ø 8	ASQ530F-03-08S
Pressure regulator	R 3/8	ø 8	ASR530F-03-08S
Speed controller	R 3/8	ø 10	ASQ530F-03-10S
Pressure regulator	R 3/8	ø 10	ASR530F-03-10S
Speed controller	R 3/8	ø 12	ASQ530F-03-12S
Pressure regulator	R 3/8	ø 12	ASR530F-03-12S
Speed controller	R 3/8	ø 10	ASQ630F-03-10S
Pressure regulator	R 3/8	ø 10	ASR630F-03-10S
Speed controller	R 3/8	ø 12	ASQ630F-03-12S
Pressure regulator	R 3/8	ø 12	ASR630F-03-12S
Speed controller	R 1/2	ø 10	ASQ630F-04-10S
Pressure regulator	R 1/2	ø 10	ASR630F-04-10S

Part	Thread size	Applicable tube [mm]	Part number
Speed controller	R 1/2	∅ 12	ASQ630F-04-12S
Pressure regulator	R 1/2	∅ 12	ASR630F-04-12S

3.3.5.2 Air saving valve - vertical working stroke with upward piston rod with a ratio of weight of the load to cylinder force > 50%

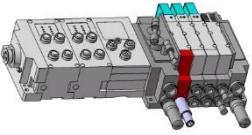
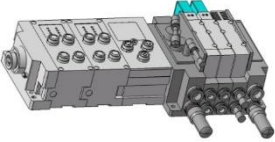
Illustration	Part	Description	Web link
	Dual speed controller valve	ASD series =>for working stroke Thread size: R 1/4, R 3/8, R 1/2 Applicable tube size: ø 6, 8, 10, 12 mm Max operating pressure: 10 bar	ASD...30F
	Pressure regulator valve	ASR series=>for return stroke Thread size: R 1/4, R 3/8, R 1/2 Applicable tube size: ø 6, 8, 10, 12 mm Set pressure range: 1 - 3 bar Max operating pressure: 10 bar	ASR...30F-...S

Part	Thread size	Applicable tube size [mm]	Part number
Dual speed controller valve	R 1/4	ø 6	ASD430F-02-06S
Pressure regulator valve	R 1/4	ø 6	ASR430F-02-06S
Dual speed controller valve	R 1/4	ø 8	ASD430F-02-08S
Pressure regulator valve	R 1/4	ø 8	ASR430F-02-08S
Dual speed controller valve	R 1/4	ø 10	ASD430F-02-10S
Pressure regulator valve	R 1/4	ø 10	ASR430F-02-10S
Dual speed controller valve	R 1/4	ø 6	ASD530F-02-06S
Pressure regulator valve	R 1/4	ø 6	ASR530F-02-06S
Dual speed controller valve	R 1/4	ø 8	ASD530F-02-08S
Pressure regulator valve	R 1/4	ø 8	ASR530F-02-08S
Dual speed controller valve	R 1/4	ø 10	ASD530F-02-10S
Pressure regulator valve	R 1/4	ø 10	ASR530F-02-10S
Dual speed controller valve	R 1/4	ø 12	ASD530F-02-12S
Pressure regulator valve	R 1/4	ø 12	ASR530F-02-12S
Dual speed controller valve	R 3/8	ø 6	ASD530F-03-06S
Pressure regulator valve	R 3/8	ø 6	ASR530F-03-06S
Dual speed controller valve	R 3/8	ø 8	ASD530F-03-08S
Pressure regulator valve	R 3/8	ø 8	ASR530F-03-08S
Dual speed controller valve	R 3/8	ø 10	ASD530F-03-10S
Pressure regulator valve	R 3/8	ø 10	ASR530F-03-10S

Part	Thread size	Applicable tube size [mm]	Part number
Dual speed controller valve	R 3/8	∅ 12	ASD530F-03-12S
Pressure regulator valve	R 3/8	∅ 12	ASR530F-03-12S
Dual speed controller valve	R 1/2	∅ 10	ASD630F-04-10S
Pressure regulator valve	R 1/2	∅ 10	ASR630F-04-10S
Dual speed controller valve	R 1/2	∅ 12	ASD630F-04-12S
Pressure regulator valve	R 1/2	∅ 12	ASR630F-04-12S

3.4 Valve manifolds

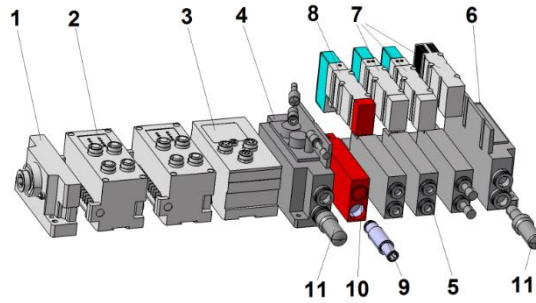
3.4.1 Valve manifolds with Profinet

Part	Description	Web link
<p>Valve manifold SY7000 with external pilot air control valve</p>  <p>The number of stations is limited to 13 - 1 pilot air control valve and 12 directional control valves.</p> <p>Max. 9 I/O modules can be mounted on one SI unit!</p> <p>Sub-bus systems are not allowed!</p>	<p>SY7000 series with or without pilot air control valve.</p> <p>Profinet protocol.</p> <p>Flow rate 1500 l/min</p> <p>Validated according to ISO 13849.</p> <p>Flexible air supply.</p> <p>More then one valve zones, that can be disconnected separately.</p> <p>External pilot air.</p> <p>DC 24 V</p> <p>Non lockable manual override.</p> <p>Operating pressure: 0.25 - 7 bar</p> <p>Electrical protection: IP65</p>	<p>Valve manifold configurator SY7000</p> <p>Profinet GSD-Data EX600-SPN1</p> <p>EX600-SPN1</p> <p>EX600-DXPB</p> <p>Technical Datasheets</p> <p>EPLAN macro library</p> <p>SISTEMA library</p>
<p>Valve manifold SY7000 without external pilot air control valve</p>  <p>The number of stations is limited to 12 directional control valves.</p> <p>Max. 9 I/O modules can be mounted on one SI unit!</p> <p>Sub-bus systems are not allowed!</p>	<p>Fieldbus and I/O connection through modular EX600 unit.</p>	
<p>Terminal EX600 as Remote I/O</p>	<p>installation variant</p> <p>Stand alone as remote I/O</p> <p>Digital input/output modules</p> <p>Voltage feed: 7/8", 5-pin</p> <p>Fieldbus connection: ProfiNet</p> <p>Connection technology: M12, D-coded</p>	<p>EX600</p>

In Chapter 4 you can find more information about the configuration:

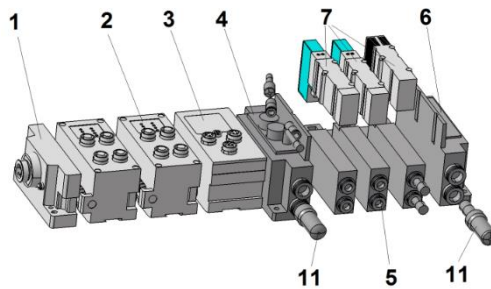
[Built-up of a valve manifold SY7000 according to the Release List](#)

3.4.1.1 Valve manifold assembly of SY7000 with external pilot air control valve



Part	Pos. no.	Id. code	Part number
Communication module PROFINET port: M12 (2 x) D-coded, 4-pol.	3	H	EX600-SPN1
	3	T	EX600-SPN3
fastener			EX600-ZMV2
Digital input module, 8 inputs, (8 x) M8, 3-pol. only after consultation and written approval responsible electrical department!	2	V	EX600-DXPC
Digital input module, 8 inputs, (4 x) M12, 5-pol.	2	X	EX600-DXPB
Digital input module, 16 inputs, (8 x) M12, 5-pol.	2	Y	EX600-DXPD
Digital output module, 8 outputs, (4 x) M12, 5-pol., 0,5 A	2	Z	EX600-DYPB
Digital output module, 8 outputs, (4 x) M12, 5-pol.; 1,5 A Module with extra 7/8 power supply!	2	W	EX600-DYPG1-X27
Left side end plate, 7/8 inch 5-pin	1	H	EX600-ED3-X75
External pilot air control valve, 5/2 monostable	8	E	SY5100T-5NZ1-X310
Sub-plate for pilot air control valve, modular type	10	E	SY70M-2-19DA-C0
2 x 3/2 direction control valve, N.C.-N.C.	7	A	SY7A00R-5U1-X323
5/2 direction control valve, monostable	7	M	SY7100R-5U1-X350
5/2 direction control valve, bistable, both side locking	7	B	SY7200R-5U1-X25
5/3 direction control valve, exhaust center	7	O	SY7400R-5U1-X315
5/3 direction control valve, pressurized center	7	D	SY7500R-5U1-X315
5/3 direction control valve, exhaust center, one-side locking	7	X	SY7400R-5NZ1-X312
Sub-plate applicable tube size \varnothing 8 mm	5	8	SY70M-2-1DA-C8
Sub-plate modular type applicable tube size \varnothing 10 mm	5	0	SY70M-2-1DA-C10
Blanking plate	7	L	SY70M-26-1A
Left-side end plate for valve manifold, tube size \varnothing 12 mm	4	F	SY70M-1-1AR-C12
Right-side end plate for valve manifold, tube size \varnothing 12 mm	6	F	SY70M-3-1A-C12
Silencer	11	F	AN30-C12
Pressure sensor	9	E	F08-7000-M12-M
SUP blocking disk assembly for sub-plate			SY70M-40-1A
EXH blocking disk assembly for sub-plates			SY70M-40-1A

3.4.1.2 Valve manifold assembly of SY7000 without external pilot air control valve



Part	Pos. no.	Id. code	Part number
Communication module PROFINET port: M12 (2 x) D-coded, 4-pol.	3	H	EX600-SPN1
	3	T	EX600-SPN3
fastener			EX600-ZMV2
Digital input module, 8 inputs, (8 x) M8, 3-pol. only after consultation and written approval responsible electrical department!	2	V	EX600-DXPC
Digital input module, 8 inputs, (4 x) M12, 5-pol.	2	X	EX600-DXPB
Digital input module, 16 inputs, (8 x) M12, 5-pol.	2	Y	EX600-DXPD
Digital output module, 8 outputs, (4 x) M12, 5-pol., 0,5 A	2	Z	EX600-DYPB
Digital output module, 8 outputs, (4 x) M12, 5-pol.; 1,5 A Module with extra 7/8 power supply!	2	W	EX600-DYPG1-X27
Left side end plate, 7/8 inch 5-pin	1	H	EX600-ED3-X75
2 x 3/2 direction control valve, N.C.-N.C., ext. pilot air	7	A	SY7A00R-5U1-X323
5/2-direction control valve, monostable, ext. pilot air	7	M	SY7100R-5U1-X350
5/2 direction control valve, bistable, both side locking	7	B	SY7200R-5U1-X25
5/2 direction control valve, exhaust center, ext. pilot air	7	O	SY7400R-5U1-X315
5/3 direction control valve, pressurized center, ext. pilot air	7	D	SY7500R-5U1-X315
5/3 direction control valve, exhaust center, one-side locking, ext. pilot air	7	X	SY7400R-5NZ1-X312
Sub-plate applicable tube size \varnothing 8 mm	5	8	SY70M-2-1DA-C8
Sub-plate modular type applicable tube size \varnothing 10 mm	5	0	SY70M-2-1DA-C10
Blanking plate	7	L	SY70M-26-1A
Left-side end plate for valve manifold, tube size \varnothing 12 mm	4	F	SY70M-1-1AR-C12
Right-side end plate for valve manifold, tube size \varnothing 12 mm	6	F	SY70M-3-1A-C12
Silencer	11	F	AN30-C12
SUP blocking disk assembly for sub-plates			SY70M-40-1A
EXH blocking disk assembly for sub-plates			SY70M-40-1A

Note:

Due to the modular design, it is possible to redesign a valve manifold without pilot air control valve to one with external pilot air control valve.

Please contact our technical office at the Volkswagen AG plant in Wolfsburg.

You can reach us by phone on +49 (0) 5361 / 89354839 or with E-Mail unter VWGroup@smc.de.


3.5 Sensors

3.5.1 Position detection for pneumatic actuators

The position detection of a pneumatic actuator with built in magnet through magnetic field detection is not allowed. Exceptions have to be based on technical or constructional reasons and have to be written approved by the relevant specialist division of the customer.

The mounting position of the switches must be reproduceable.

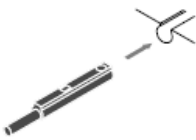
3.5.2 Magnetic Field Sensors

Illustration	Part	Description	Web link
	Electronic sensor Pre-wired connector	D-M9P...PC series Operating voltage: 5, 12, 24 V DC Output: PNP Connection: M8, 3-poled or M12, 4-poled Cable length: 0.5; 1.0, 3.0 m Schutzart: IP-67	D-M9PSAPC D-M9PSDPC

Part	Connection	Cable length [m]	Part number
Electronic Auto-Switch	M8, 3-pole	0,5	D-M9PSAPC
Electronic Auto-Switch	M12, 4-pole	0,5	D-M9PSDPC

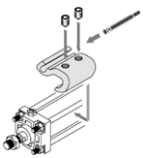
3.5.3 Magnetic field sensor mounting

3.5.3.1 Direct mounting

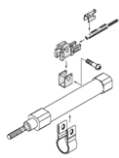
Illustration	Part	Description
	Direct mounting	No need for additional mounting element, the auto switch is mounted in to the groove of the pneumatic actuator.

Cylinder type	Part number	Link
Standard cylinder ISO 15552 (nur \varnothing 32 - 125 mm)	CP96SDB...-...C	Link to chapter 3.1.1.1 Cylinder
Compact cylinder ISO 21287	CD55B...-...	Link to chapter 3.1.1.6 Cylinder
Compact cylinder with guides	CDQMB...-...	Link to chapter 3.1.1.7 Cylinder
Compact guide cylinder	MGP...-...Z	Link to chapter 3.1.1.8 Cylinder
Rotary table, rack and pinion type	MSQB...	Link to chapter 3.1.3.2 Rotary actuator
Rotary actuator, direct mounting, vane type	CDRBU2WU...-270SZ	Link to chapter 3.1.3.3 Rotary actuator

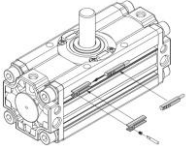
3.5.3.2 Mounting with brackets

Illustration	Part	Description	Web link
	Mounting bracket	Applicable actuator: Standard cylinder ISO 15552 Type: C95SDB...-... \varnothing : 160, 200 mm Tie-rod mounting	BS5-160 BS5-200

Part	Cylinder type	Part number	Link
Mounting bracket	C95SDB160-...	BS5-160	Link to chapter 3.1.1.2 cylinder
Mounting bracket	C95SDB200-...	BS5-200	


Illustration	Part	Description	Web link
	Mounting bracket	Applicable actuator: Standard cylinder ISO 6432 Type: CD85N...-...-B \varnothing : 10, 16, 25 mm Band mounting	BJ3-1 BJ2-010 BJ2-016 BM2-025

Part	Cylinder type	Part number (both items required)	Link
Mounting bracket	CD85N10-...-B	BJ3-1 + BJ2-010	Link to chapter 3.1.1.4 Cylinder
Mounting bracket	CD85N16-...-B	BJ3-1 + BJ2-016	
Mounting bracket	CD85N25-...-B	BJ3-1 + BM2-025	


Illustration	Part	Description	Web link
	Mounting bracket	Applicable actuator: Rotary actuator Type: CDRA1BS...-...CZ Size: 30, 50, 63, 80, 100 Groove mounting with adapter	BMY3-016

Part	Cylinder type	Part number	Link
Mounting bracket	CDRA1BS...-...CZ	BMY3-016	Link to chapter 3.1.3.1 Rotary actuator

3.5.3.3 Positioning element for magnetic sensors

Illustration	Part	Description	Web link
	T-grooved cylinder Memory block	Applicable actuators: Positioning element for magnetic field sensors for mounting on pneumatic actuators with T-groove	

Part	Applicable actuators	Part number	Link
T-grooved cylinder Memoryblock	CDRA1BS...-...CZ	MEMORY BLOCK_E11798	Link to chapter 3.1.3.1 Rotary actuator

Illustration	Part	Description	Web link
	C-Nut Zylinder Memoryblock	Applicable actuators: Positioning element for magnetic field sensors for mounting on pneumatic actuators with C-groove	


Part	Applicable actuators	Part number	Link
C-groove cylinder Memoryblock	CP96SDB...-...C	MEMORY BLOCK C-NUT_E12004	Link to chapter 3.1.1.1 Cylinder
C-groove cylinder Memoryblock	CD55B...-...	MEMORY BLOCK C-NUT_E12004	Link to chapter 3.1.1.6 Cylinder

Part	Applicable actuators	Part number	Link
C-groove cylinder Memoryblock	CDQMB...-...	MEMORY BLOCK C-NUT_E12004	Link to chapter 3.1.1.7 Cylinder
C-groove cylinder Memoryblock	MGP...-...Z	MEMORY BLOCK C-NUT_E12004	Link to chapter 3.1.1.8 Cylinder
C-groove cylinder Memoryblock	MSQB...	MEMORY BLOCK C-NUT_E12004	Link to chapter 3.1.3.2 Rotary actuator

3.6 Air-preparation equipment

3.6.1 Shut-off valves


3.6.1.1 Shut-off valve, manually operated

Illustration	Part	Description	Web link
	3-2 way valve Pressure relief valve	VHS series Thread size: G 1/4, G 1/2, G 1 Operating pressure: 0.1 - 10 bar Flow rate: 1100 - 6600 l/min Manually operated Pressure relief Lockable	VHS

Part	Thread size	Flow rate [l/min]	Part number
3/2-Way Pressure relief hand valve	G 1/4	1100	VHS20-F02B
3/2-Way Pressure relief hand valve	G 1/2	3300	VHS40-F04B
3/2-Way Pressure relief hand valve	G 1	6600	VHS50-F10B


3.6.2 Soft Start-up valve

3.6.2.1 Soft start-up valve, electrical operation

Illustration	Part	Description	Web link
	Soft Start-up Valve	EAV...-X260-Q series Thread size: G 1/4, G 1/2, G 1 Operating pressure: 0.2-10 bar Flow rate: 1100 - 6600 l/min Operating voltage: 24 V DC W/o lead wire Electric operation 3/2-Way valve Normally closed	EAV [Link to the same article in grey color]


Part	Thread size	Flow rate [l/min]	Part number
Soft start-up valve	G 1/4	1100	EAV2000-F02-5YO-X260-Q
Soft start-up valve	G 1/2	3300	EAV4000-F04-5YO-X260-Q
Soft start-up valve	G 1	6600	EAV5000-F10-5YO-X260-Q

3.6.2.2 Soft start-up valve, pneumatical operation

Illustration	Part	Description	Web link
	Soft Start-up Valve	EAVA...-X260 series Thread size: G 1/4, G 1/2, G 1 Operating pressure: 0.2-10bar Flow rate: 1100 - 6600 l/min Operating pressure: 24 V DC Pneumatic operation 3/2-Way valve Normally closed	EAVA Document EAVA CAD

Part	Thread size	Flow rate [l/min]	Part number
Soft start-up valve	G 1/4	1100	EAVA2000-F02-X260
Soft start-up valve	G 1/2	3300	EAVA4000-F04-X260
Soft start-up valve	G 1	6600	EAVA5000-F10-X260


3.6.3 Piping adapter

Illustration	Part	Description	Web link
	Piping adapter	E...00-A series Thread size: G 1/4 (AC20) G 1/2 (AC40) G 1 (AC60)	E...00..-A

Part	Thread size	Part number
Piping adapter	G 1/4	E200-F02-A
Piping adapter	G 1/2	E400-F04-A
Piping adapter	G 1	E600-F10-A


3.6.4 Spacer

3.6.4.1 Spacer with bracket

Illustration	Part	Description	Web link
	Spacer with bracket	Serie Y...T-A Size: AC20 (G 1/4) AC40 (G 1/2) AC60 (G 1)	Y...00T-A


Part	Size	Part number
Spacer with bracket	AC20	Y200T-A
Spacer with bracket	AC40	Y400T-A
Spacer with bracket	AC60	Y600T-A

3.6.4.2 Spacer


Illustration	Part	Description	Web link
	Spacer	Serie Y...-A-X260 Size: AC20 (G 1/4) AC40 (G 1/2) AC60 (G 1) w/o bracket	Y...00-A

Part	Size	Part number
Spacer	AC20	Y200-A
Spacer	AC40	Y400-A
Spacer	AC60	Y600-A

3.6.5 T-spacer/Cross spacer


Illustration	Part	Description	Web link
	T-spacer	Y..10-A series Size: AC20 (G 1/4) AC40 (G 1/2) AC60 (G 1)	Y..10...-A

Part	Size	Thread size	Part number
T-spacer	AC20	G 1/8	Y210-F01-A
T-spacer	AC20	G 1/4	Y210-F02-A
T-spacer	AC40	G 1/4	Y410-F02-A
T-spacer	AC40	G 3/8	Y410-F03-A
T-spacer	AC60	G 3/8	Y610-F03-A
T-spacer	AC60	G 1/2	Y610-F04-A

Illustration	Part	Description	Web link
	Cross spacer 4 directions	Y...4-A series Size: AC20 (G 1/4) AC40 (G 1/2) AC60 (G 1)	Y...4-A


Part	Size	Thread size	Part number
Cross spacer	AC20	G 1/8	Y24-F01-A
Cross spacer	AC20	G 1/4	Y24-F02-A
Cross spacer	AC40	G 1/4	Y44-F02-A
Cross spacer	AC40	G 3/8	Y44-F03-A

3.6.6 Filter


Illustration	Part	Description	Web link
	Filter	AF-A series Thread size: G 1/4, G 1/2, G 1 Operating pressure: max.10 bar Flow rate: 850 - 7000 l/min Filterfeinheit: 5 µm	AF...-A

Part	Thread size	Flow rate [l/min]	Part number
Filter, 5 µm	G 1/4	1100	AF20-F02-A
Filter, 5 µm	G 1/2	3300	AF40-F04-A
Filter, 5 µm	G 1	6600	AF60-F10-A
replacement filter 5 µm	G 1/4	1100	AF20P-060S


Part	Thread size	Flow rate [l/min]	Part number
replacement filter 5 µm	G 1/2	3300	AF40P-060S
replacement filter 5 µm	G 1	6600	AF60P-060S

Illustration	Part	Description	Web link
	Mist separator	AFM-A series Thread size: G 1/4, G 1/2 Operating pressure: 0,5 - 10 bar Flow rate: 170 - 900 l/min. Filterfeinheit: 0,3 µm	AFM...-A

Part	Thread size	Flow rate [l/min]	Part number
Mist separator, 0,3 µm	G 1/4	170	AFM20-F02-A
Mist separator, 0,3 µm	G 1/2	900	AFM40-F04-A
replacement filter 0,3 µm	G 1/2	900	AFM40P-060AS


Illustration	Part	Description	Web link
	Micro Mist Separator	AFD-A series Thread size: G 1/4, G 1/2 Operating pressure: 0,5 - 10 bar Flow rate: 100 - 500 l/min. Filterfeinheit 0,01 µm	AFD...-A

Part	Thread size	Flow rate [l/min]	Part number
Micro mist separator, 0,01µm	G 1/4	100	AFD20-F02-A
Micro mist separator, 0,01µm	G 1/2	500	AFD40-F04-A
replacement filter 0,01µm	G 1/2	900	AFD40P-060AS

Illustration	Part	Description	Web link
	Odour Removal Filter	AMF series Thread size: G 1/4, G 1/2 Operating pressure: 0,5 - 10 bar Flow rate: 450 -1700 l/min.	AMF


Part	Thread size	Flow rate [l/min]	Part number
Odour Removal Filter	G 1/4	450	AMF250C-F02
Odour Removal Filter	G 1/2	1700	AMF450C-F04
replacement filter	G 1/4	450	AMF-EL250

3.6.7 Filter-regulator


Illustration	Part	Description	Web link
	Filter-regulator	AW-B series Thread size: G 1/4, G 1/2, G 1 Operating pressure: max. 10 bar Set pressure range:	AW...-B

Part	Thread size	Flow rate [l/min]	Part number
Filter-regulator, 5 µm	G 1/4	1100	AW20K-F02-B
Filter-regulator, 5 µm	G 1/2	3300	AW40K-F04-B
Filter-regulator, 5 µm	G 1	6600	AW60K-F10-B


3.6.8 Pressure regulators

Illustration	Part	Description	Web link
	Pressure regulator	AR-B series Thread size: G 1/4, G 1/2, G 1 Op. pressure: max. 10 bar Flow rate: 650 - 5000 l/min	AR...K-...-B

Part	Thread size	Set pressure range [bar]	Part number
Pressure regulator	G 1/4	0,5 - 8,5	AR20K-F02-B
Pressure regulator	G 1/2	0,5 - 8,5	AR40K-F04-B
Pressure regulator	G 1	0,5 - 8,5	AR60K-F10-B


Illustration	Part	Description	Web link
	Precision pressure regulator	ARP series Thread size: G 1/4, G 1/2 Operating pressure: max. 7 bar	ARP

Part	Thread size	Set pressure range [bar]	Part number
Precision pressure regulator	G 1/4	0,05 - 4	ARP20-F02B
Precision pressure regulator	G 1/4	0,05 - 2	ARP20-F02B-1
Precision pressure regulator	G 1/4	0,08 - 6	ARP20-F02B-3
Precision pressure regulator	G 1/2	0,05 - 4	ARP40-F04B
Precision pressure regulator	G 1/2	0,05 - 2	ARP40-F04B-1
Precision pressure regulator	G 1/2	0,08 - 6	ARP40-F04B-3

Illustration	Part	Description	Web link
	Precision pressure regulator	IR series Thread size: G 1/4, G 1/2 Op. pressure: max. 10 bar Flow rate: 580 - 5000 l/min	IR


Part	Thread size	Set pressure range [bar]	Part number
Precision pressure regulator	G 1/4	0,05 - 2	IR2000-F02
Precision pressure regulator	G 1/4	0,1 - 4	IR2010-F02
Precision pressure regulator	G 1/4	0,1 - 8	IR2020-F02
Precision pressure regulator	G 1/2	0,1 - 2	IR3000-F04
Precision pressure regulator	G 1/2	0,1 - 4	IR3010-F04
Precision pressure regulator	G 1/2	0,1 - 8	IR3020-F04

3.6.9 Pressure gauges

Illustration	Part	Description	Web link
	Manometer	K8 series Thread size: G 1/8 Scale: bar, \varnothing 40 mm With limit indicator Red-green scale	K8...-40RGB CAD

Part	Thread size	Gauge range [bar]	Part number
Gauge	G 1/8	0 - 2,5	K8-2,5-40RGB
Gauge	G 1/8	0 - 10	K8-10-40RGB
Gauge	G 1/8	0 - 16	K8-16-40RGB

3.6.10 Mechanical pressure switch for air preparation unit

Illustration	Part	Description	Web link
	Pressure switch	PDS series Thread size: G 1/4, female thread Op. pressure: max. 8 bar Switching range: 0.5 - 8 bar Operating voltage: 24 V DC M12 connector Mechanical setting of switching point	PDS-1-008-M-2-2 Dokument PDS-1-008-M-2-2 CAD

Part	Thread size	Detection range [bar]	Part number
Pressure switch	G 1/4	0.5 - 8	PDS-1-008-M-2-2

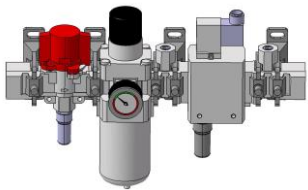
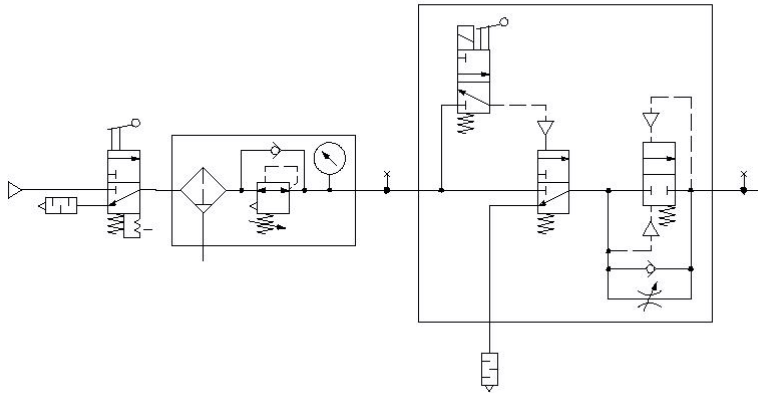
[Link to chapter 3.6.11.1 | Standard air preparation unit](#)

[Link to chapter 3.6.11.2 | Standard air preparation unit with electric valve and connection for pilot air](#)

[Link to chapter 3.6.11.3 | Air preparation unit with pneumatic valve and connection for pilot air](#)

3.6.11 Air preparation units according to VW-standard

3.6.11.1 Standard Air Preparation unit

Illustration	Part	Description	Web link
	Air preparation unit assembly	Standard air preparation unit Thread size: G 1/4, G 1/2, G 1 Flow rate: 1100 – 6600 l/min Filtration rate: 5 µm	AC20 CAD AC40 CAD AC60 CAD AC series catalogue
			


Description	Thread size	Flow rate [l/min]	Part number	Link
Air preparation unit assembly	G 1/4	1100	AC20-LBU049	Link to datasheet
Air preparation unit assembly	G 1/2	3300	AC40-LBU039	Link to datasheet
Air preparation unit assembly	G 1	6600	AC60-LBU052	Link to datasheet

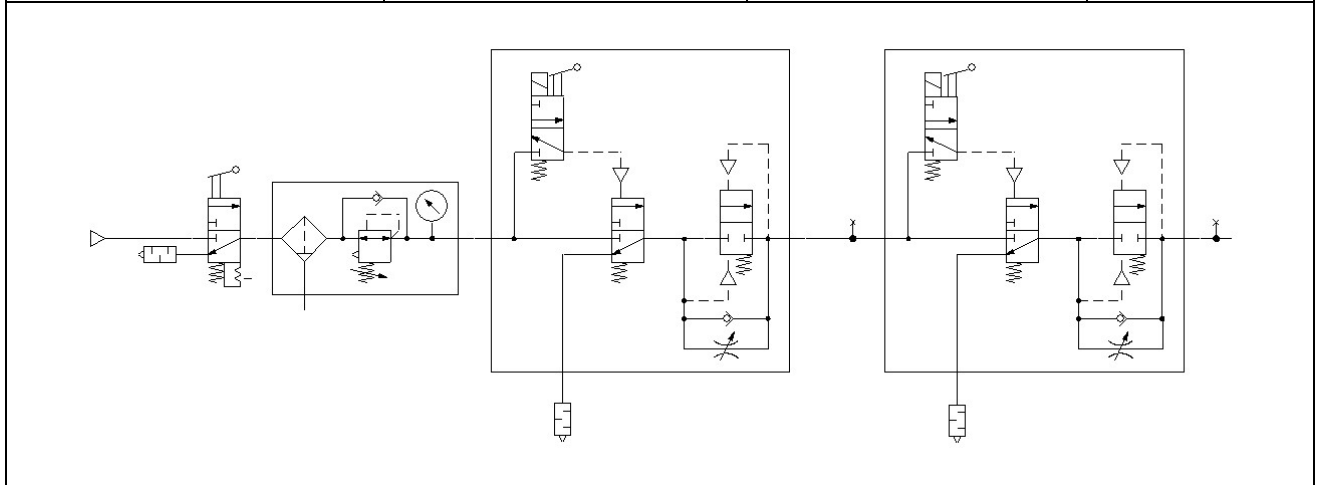
Pressure monitoring FRL units must include a pressure switch.

For this purpose may be used an electronical pressure switch from the Specification list, or a separate mechanical pressure switch.

[Link to chapter 3.6.10 | mechanical pressure switch](#)

3.6.11.2 Air preparation unit with electric valve and connection for sealing air

Illustration	Part	Description	Web link
	Air preparation unit assembly	Standard air preparation unit Thread size: G 1/4, G 1/2, G 1 Flow rate: 1100 – 6600 l/min Filtration rate: 5 µm	AC20 CAD AC40 CAD AC60 CAD AC series catalogue



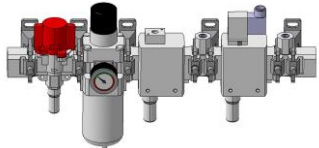
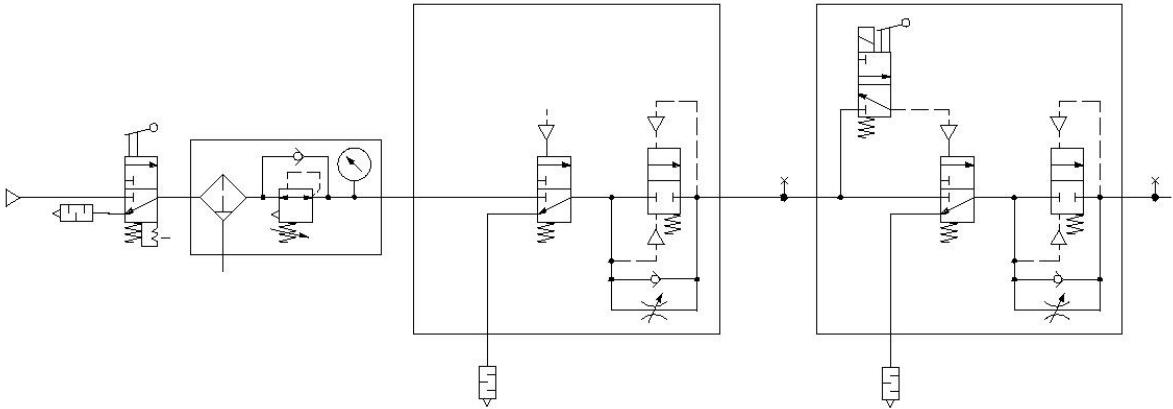
Description	Thread size	Flow rate [l/min]	Part number	Link
Air preparation unit assembly	G 1/4	1100	AC20-LBU047	Link to datasheet
Air preparation unit assembly	G 1/2	3300	AC40-LBU037	Link to datasheet
Air preparation unit assembly	G 1	6600	AC60-LBU050	Link to datasheet

Pressure monitoring FRL units must include a pressure switch.

For this purpose may be used an electronical pressure switch from the Specification list, or a separate mechanical pressure switch.

[Link to chapter 3.6.10 | Mechanical pressure switch](#)

3.6.11.3 Air preparation unit with pneumatic valve and connection for sealing air

Illustration	Part	Description	Web link
	Air preparation unit assembly	Standard air preparation unit Thread size: G 1/4, G 1/2, G 1 Flow rate: 1100 – 6600 l/min Filtration rate: 5 µm	AC20 CAD AC40 CAD AC60 CAD AC series catalogue
			


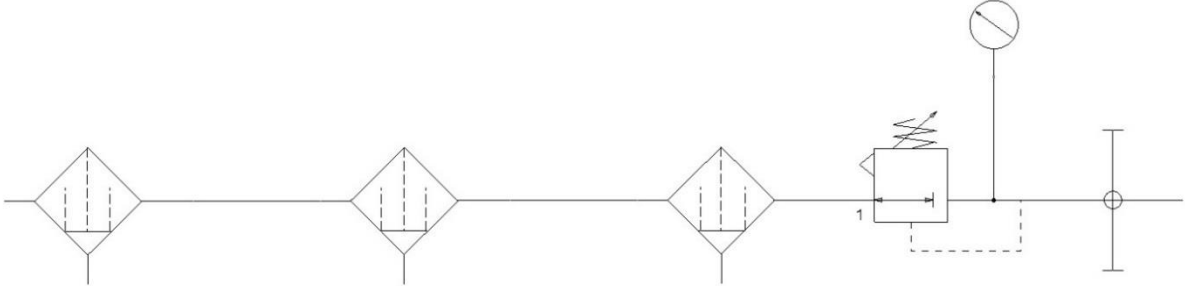
Description	Thread size	Flow rate [l/min]	Part number	Link
Air preparation unit assembly	G 1/4	1100	AC20-LBU048	Link to datasheet
Air preparation unit assembly	G 1/2	3300	AC40-LBU038	Link to datasheet
Air preparation unit assembly	G 1	6600	AC60-LBU051	Link to datasheet

Pressure monitoring FRL units must include a pressure switch.

For this purpose may be used an electronical pressure switch from the Specification list, or a separate mechanical pressure switch.


[Link to chapter 3.6.10 | mechanical pressure switch](#)

3.6.11.4 Air preparation unit for sealing air

Illustration	Part	Description	Web link
	Air preparation unit assembly for sealing air	Standard air preparation unit Thread size: G 1/4 Flow rate: 130 - 380 l/min Filter fineness: 0,3 - 0,01 µm Pressure air quality at output: 1:7:1 acc. to DIN ISO 8573-1	AC20 CAD Serie AC Gesamtkatalog
			

Description	Thread size	Flow rate [l/min]	Part number	Link
Air preparation unit assembly	G 1/4	380	AC20-LPY156	Link to datasheet


3.6.12 Pressure booster regulators

Illustration	Part	Description	Web link
	Pressure booster	VBA series Pressure ratio 1:2, 1:4 Thread size: G1/4, G3/8, G1/2 Supply pressure: 1 - 10 bar Set pressure range: 2 - 10, 16, 20 bar Ambient and fluid temp.: 5 - 60°C	VBA


Part	Thread size	Set pressure range [bar]	Part number
Pressure booster (Pressure increase ratio 1:2)	G 1/4	2 - 20	VBA10A-F02
Pressure booster (Pressure increase ratio 1:4)	G 1/	2 - 20	VBA11A-F02
Pressure booster (Pressure increase ratio 1:2)	G 3/8	2 - 10	VBA20A-F03
Pressure booster (Pressure increase ratio 1:2)	G 1/2	2 - 10	VBA40A-F04
Pressure booster (Pressure increase ratio 1:2)	G 1/2	2 - 16	VBA43A-F04

3.7 Safety related pneumatics


3.7.1 Safety related Valves

Illustration	Part	Description	Web link
	Safety pressure release valve Safety standard:ISO 13849-1 Category 2 Main valve position detection Single valve	VP-X536 series Thread size: G 3/8, G 1/2 Op. pressure: 0,25 - 7 bar Flow rate: 2000 - 3600 l/min Release flow rate: 2100 - 3700 l/min Operating voltage: 24 V DC 3/2-way valve, N.C. External/Internal pilot air	VP-X536 EPLAN macro library SISTEMA library

Part	Thread size	Flow rate [l/min]	Pilot air Internal/external	Part number
Safety pressure release valve	G 3/8	2000	Internal pilot air	VP542-5YZ1-03F-M-X536
			Exernal. pilot air	VP542R-5YZ1-03F-M-X536
Safety pressure release valve	G 1/2	3600	Internal pilot air	VP742-5YZ1-04F-M-X536
			Exernal. pilot air	VP742R-5YZ1-04F-M-X536


Illustration	Part	Description	Web link
	Safety pressure release valve Safety standard:ISO 13849-1 Category 3 and 4 Main valve position detection Can be used as single valve	VP-X538, VP-X555 series, Thread size: G 3/8, G 1/2 VG342-X87 series Thread size: G 1 Op. pressure: 0,25 - 7 bar Flow rate: 1150 - 5800 l/min Release flow rate: 1520 - 6200 l/min Operating voltage: 24 V DC 3/2-way valve, N.C. External/Internal pilot air	VP-X538 VP-X555 VG342-X87 EPLAN macro library SISTEMA library

Part	Thread size	Flow rate [l/min]	Part number	
Safety pressure release valve Redundant dual valve	G 3/8	1150	VP544-5YZ1-03F-M-X538 VP544R-5YZ1-03F-M-X538	Internal pilot air External. pilot air
Safety pressure release valve Redundant dual valve	G 1/2	2300	VP744-5YZ1-04F-M-X538 VP744R-5YZ1-04F-M-X538	Internal pilot air External. pilot air
Safety pressure release valve Redundant dual valve with soft start valve	G 3/8	1150	VP544-5YZ1-03F-M-X555 VP544R-5YZ1-03F-M-X555	Internal pilot air External. pilot air
Safety pressure release valve Redundant dual valve with soft start valve	G 1/2	2200	VP744-5YZ1-04F-M-X555 VP744R-5YZ1-04F-M-X555	Internal pilot air External. pilot air
Safety pressure release valve Redundant dual valve	G 1	5800	VG342-5DZ-10F-M-X87 VG342R-5DZ-10F-M-X87	Internal pilot air External. pilot air

Illustration	Part	Description	Web link
	<p>Pilot check valve with state detection</p> <p>For safety related applications, according to ISO 13849-1</p> <p>For „Safe stop“ applications and against unexpected start</p>	<p>XT34-303 series</p> <p>Thread size: M5, G 1/8 G 1/4, G 3/8, G 1/2</p> <p>Op. pressure: 0,25 - 7 bar</p> <p>Operating voltage: 24 V DC</p> <p>M8-connector</p>	<p>XT34-303 Document</p> <p>XT34-303 CAD</p> <p>EPLAN macro library</p> <p>SISTEMA library</p>


Part	Thread size	Part number
Pilot check valve with state detection	M5	XT34-303-M5
Pilot check valve with state detection	G 1/8	XT34-303-F01
Pilot check valve with state detection	G 1/4	XT34-303-F02
Pilot check valve with state detection	G 3/8	XT34-303-F03
Pilot check valve with state detection	G 1/2	XT34-303-F04

3.7.2 Safety related components for air preparation

Illustration	Part	Description	Web link
	Safety pressure release valve Safety standard:ISO 13849-1 Category 3 and 4 Main valve position detection Integration into air preparation unit	VP-X538, VP-X555 series Thread size: G 1/2 Op. pressure: 0,25 - 7 bar Flow rate: 2200 - 5800 l/min Release flow rate: 2180 - 6200 l/min Operating voltage: 24 V DC 3/2-way valve, N.C. External/Internal pilot air	VP-X538 VP-X555 VG342-X87 EPLAN macro library SISTEMA library

Part	Thread size	Flow rate [l/min]	Pilot air Internal/External	Part number
Safety pressure release valve Redundant dual valve	G 1/2	2300	Internal pilot air	VP744-5YZ1-04F-M-X538
Safety pressure release valve Redundant dual valve	G 1/2	2300	External pilot air	VP744R-5YZ1-04F-M-X538
Safety pressure release valve Redundant dual valve with soft start valve	G 1/2	2200	Internal pilot air	VP744-5YZ1-04F-M-X555
Safety pressure release valve Redundant dual valve with soft start valve	G 1/2	2200	External pilot air	VP744R-5YZ1-04F-M-X555
Safety pressure release valve Redundant dual valve	G 1	5800	Internal pilot air	VG342-5DZ-10F-M-X87
Safety pressure release valve Redundant dual valve	G 1	5800	External pilot air	VG342R-5DZ-10F-M-X87

3.7.3 Safety related locking/braking units

Illustration	Part	Description	Web link
	locking unit Safety standards ISO 13849-1	Holds work piece in position when air supply is interrupted	MWB-UT SISTEMA library


Part	Usable piston rod \varnothing mm * ¹	Recommended piston \varnothing [mm]	locking Holding force* ² (max. static load) [N]	Part number
locking unit This locking unit does not have a manual unlocking feature.	\varnothing 12 f8	\varnothing 32	630	MWB...32TF-UT-...(-X3075)
				MWB...32TF-UT-...(-X3246) with metal scraper
locking unit This locking unit does not have a manual unlocking feature.	\varnothing 16 f8	\varnothing 40	980	MWB...40TF-UT-...(-X3075)
				MWB...40TF-UT-...(-X3246) with metal scraper
locking unit This locking unit does not have a manual unlocking feature.	\varnothing 20 f8	\varnothing 50	1.570	MWB...50TF-UT-...(-X3075)
				MWB...50TF-UT-...(-X3246) with metal scraper
locking unit This locking unit does not have a manual unlocking feature.	\varnothing 20 f8	\varnothing 63	2.450	MWB...63TF-UT-...(-X3075)
				MWB...63TF-UT-...(-X3246) with metal scraper
locking unit This locking unit does not have a manual unlocking feature.	\varnothing 25 f8	\varnothing 80	3.920	MWB...80TF-UT-...(-X3075)
				MWB...80TF-UT-...(-X3246) with metal scraper
locking unit This locking unit does not have a manual unlocking feature.	\varnothing 30 f8		6.080	MWB 100TF-UT-...(-X3075)
				MWB 100TF-UT-...(-X3246) with metal scraper

*¹ The applicable rod size affects the holding force, so use a rod with the rod size tolerance shown in the table above.


*² The holding force (max. static load) shows the maximum capability and does not show the normal holding capability. Be sure to select a cylinder using the method described under Model Selection.

3.8 Pneumatic Fitting and Tubing


3.8.1 Flexible tubes for air and water, calibrated outside diameter

Illustration	Part	Description	Web link
	Plastic tubing PA	T seires Outside dia.: \varnothing 4 - 12 mm Calibrated outside diameter Fluid: Air Material: Polyamid Color: White (material color)	I

Part	\varnothing O.D. / \varnothing I.D. [mm]	Part number
Plastic tubing PA, Material color, 20 m roll	\varnothing 4 / \varnothing 2,5	T0425W-20
Plastic tubing PA, Material color, 20 m roll	\varnothing 6 / \varnothing 4	T0604W-20
Plastic tubing PA, Material color, 20 m roll	\varnothing 8 / \varnothing 6	T0806W-20
Plastic tubing PA, Material color, 20 m roll	\varnothing 10 / \varnothing 7,5	T1075W-20
Plastic tubing PA, Material color, 20 m roll	\varnothing 12 / \varnothing 9	T1209W-20
Plastic tubing PA, Material color, 100 m roll	\varnothing 4 / \varnothing 2,5	T0425W-100
Plastic tubing PA, Material color, 100 m roll	\varnothing 6 / \varnothing 4	T0604W-100
Plastic tubing PA, Material color, 100 m roll	\varnothing 8 / \varnothing 6	T0806W-100
Plastic tubing PA, Material color, 100 m roll	\varnothing 10 / \varnothing 7,5	T1075W-100
Plastic tubing PA, Material color, 100 m roll	\varnothing 12 / \varnothing 9	T1209W-100

Illustration	Part	Description	Web link
	Plastic tubing PU	TU series Outside dia.: \varnothing 4 - 16 mm Calibrated outside diameter Fluid: Air Material: Polyurethan Color: Material color	TU

Part	\varnothing O.D. / \varnothing I.D. [mm]	Part number
Plastic tubing PU, Material color, 20 m roll	\varnothing 4 / \varnothing 2,5	TU0425C-20
Plastic tubing PU, Material color, 20 m roll	\varnothing 6 / \varnothing 4	TU0604C-20
Plastic tubing PU, Material color, 20 m roll	\varnothing 8 / \varnothing 5	TU0805C-20
Plastic tubing PU, Material color, 20 m roll	\varnothing 10 / \varnothing 6,5	TU1065C-20
Plastic tubing PU, Material color, 20 m roll	\varnothing 12 / \varnothing 8	TU1208C-20
Plastic tubing PU, Material color, 20 m roll	\varnothing 16 / \varnothing 10	TU1610C-20
Plastic tubing PU, Material color, 100 m roll	\varnothing 4 / \varnothing 2,5	TU0425C-100
Plastic tubing PU, Material color, 100 m roll	\varnothing 6 / \varnothing 4	TU0604C-100
Plastic tubing PU, Material color, 100 m roll	\varnothing 8 / \varnothing 5	TU0805C-100
Plastic tubing PU, Material color, 100 m roll	\varnothing 10 / \varnothing 6,5	TU1065C-100
Plastic tubing PU, Material color, 100 m roll	\varnothing 12 / \varnothing 8	TU1208C-100
Plastic tubing PU, Material color, 100 m roll	\varnothing 16 / \varnothing 10	TU1610C-100

Illustration	Part	Description	Web link
	Plastic tubing PU	TU series Outside dia.: \varnothing 4 - 16 mm Calibrated outside diameter Fluid: Air Material: Polyurethan Color: blue	TU

Part	\varnothing O.D. / \varnothing I.D. [mm]	Part number
Plastic tubing PU, blue, 20 m roll	\varnothing 4 / \varnothing 2,5	TU0425BU-20
Plastic tubing PU, blue, 20 m roll	\varnothing 6 / \varnothing 4	TU0604BU-20
Plastic tubing PU, blue, 20 m roll	\varnothing 8 / \varnothing 5	TU0805BU-20
Plastic tubing PU, blue, 20 m roll	\varnothing 10 / \varnothing 6,5	TU1065BU-20
Plastic tubing PU, blue, 20 m roll	\varnothing 12 / \varnothing 8	TU1208BU-20
Plastic tubing PU, blue, 20 m roll	\varnothing 16 / \varnothing 10	TU1610BU-20
Plastic tubing PU, blue, 100 m roll	\varnothing 4 / \varnothing 2,5	TU0425BU-100
Plastic tubing PU, blue, 100 m roll	\varnothing 6 / \varnothing 4	TU0604BU-100
Plastic tubing PU, blue, 100 m roll	\varnothing 8 / \varnothing 5	TU0805BU-100
Plastic tubing PU, blue, 100 m roll	\varnothing 10 / \varnothing 6,5	TU1065BU-100
Plastic tubing PU, blue, 100 m roll	\varnothing 12 / \varnothing 8	TU1208BU-100
Plastic tubing PU, blue, 100 m roll	\varnothing 16 / \varnothing 10	TU1610BU-100

3.8.2 Pneumatic fittings \varnothing 4, 6, 8, 10, 12 16 mm





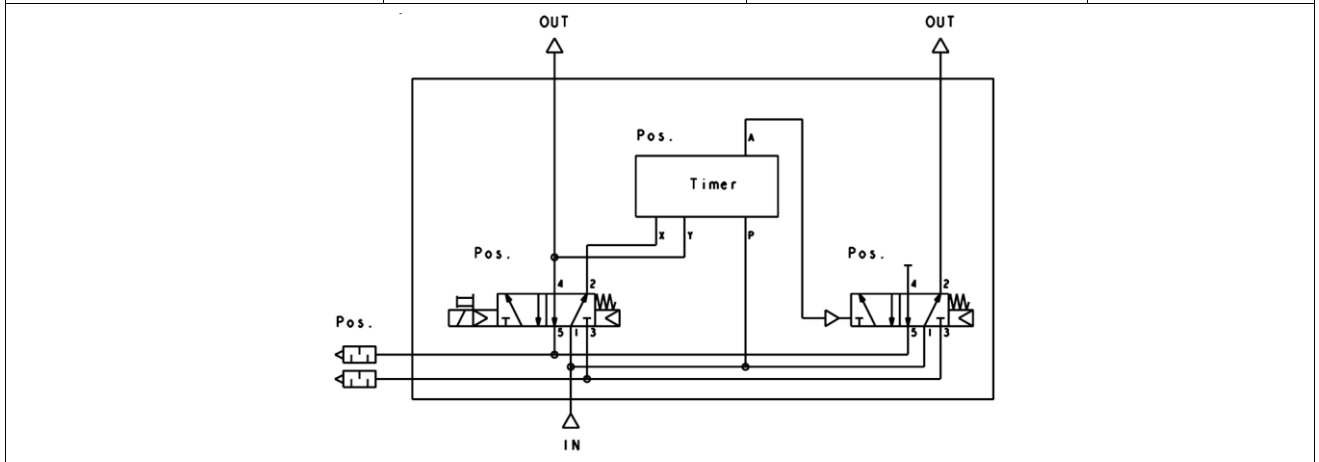
Illustration	Part	Description	Web link
	<p>One-touch fittings Resin body</p>	<p>KQ2...-G series Applicable tube size: \varnothing 4, 6 , 8, 10, 12, 16 mm Thread size: G 1/8, G 1/4, G 3/8, G 1/2 Face sealing Suitable for vacuum applications Push-in fittings</p>	<p>KQ2...-G</p>
	<p>One-touch fittings Resin body</p>	<p>KQ2 series Applicable tube size: \varnothing 4, 6 , 8, 10, 12, 16 mm Thread size: M3, M5, M6, R 1/8, R 1/4, R 3/8, R 1/2 With thread sealant Suitable for vacuum applications Push-in fittings Branch type Plug-in fitting Bulkhead union Bulkhead connector</p>	<p>KQ2</p>

Illustration	Part	Description	Web link
	<p>One-touch fittings Metal body</p>	<p>KQB2...-G series Applicable tube size: ∅ 4, 6 , 8, 10, 12, 16 mm Thread size: G 1/8, G 1/4, G 3/8, G 1/2 Face sealing Suitable for vacuum applications Bulkhead union Bulkhead connector</p>	<p>KQB2...-G</p>
	<p>One-touch fittings Metal body</p>	<p>KQB2 series Applicable tube size: ∅ 4, 6 , 8, 10, 12, 16 mm Thread size: M5, R 1/8, R 1/4, R 3/8, R 1/2 With thread sealant Suitable for vacuum applications Push-in fittings Branch type Plug-in fitting Bulkhead union Bulkhead connector</p>	<p>KQB2</p>

3.9 Other Pneumatic Equipment and Components


3.9.1 Air blow unit

	Part	Description	Web link
	Air blow unit	Op. pressure: 10 bar Op. temperature: 5 - 60°C	EVS7-6-FG-S-3ZRMO-CEK00058 Document EVS7-6-FG-S-3ZRMO-CEK00058 CAD




Description	Part number	Link
Air blow unit	EVS7-6-FG-S-3ZRMO-CEK00058	Link to datasheet


3.9.2 Silencers

Illustration	Part	Description	Web link
	Silencers	AN series Thread type Noise reduction: 30 dB (A)	AN05 - AN40 AN600

Part	Thread size	Part number
Silencer	M5	AN05-M5
Silencer	R 1/8	AN10-01
Silencer	R 1/4	AN15-02
Silencer	R 1/4	AN20-02
Silencer	R 3/8	AN30-03
Silencer	R 1/2	AN40-04
Silencer	R 1	AN600-10


Illustration	Part	Description	Web link
	Silencer	AN...-C series For one-touch fitting: ø 6, 8, 10, 12 mm Noise reduction: 30 dB (A)	AN...-C.

Part	Connection ø [mm]	Part number
Silencer	6	AN10-C06
Silencer	8	AN15-C08
Silencer	10	AN20-C10
Silencer	12	AN30-C12

Illustration	Part	Description	Web link
	High noise reduction-Silencer	ANA1 series Thread type Noise reduction: 42 dB (A)	ANA1

Part	Thread size	Part number
High noise reduction silencer	R 1/8	ANA1-01
High noise reduction silencer	R 1/4	ANA1-02
High noise reduction silencer	R 3/8	ANA1-03
High noise reduction silencer	R 1/2	ANA1-04
High noise reduction silencer	R 3/4	ANA1-06
High noise reduction silencer	R 1	ANA1-10
High noise reduction silencer	R 1 1/4	ANA1-12
High noise reduction silencer	R 1 1/2	ANA1-14
High noise reduction silencer	R 2	ANA1-20

3.9.3 Pulse Blow Valve

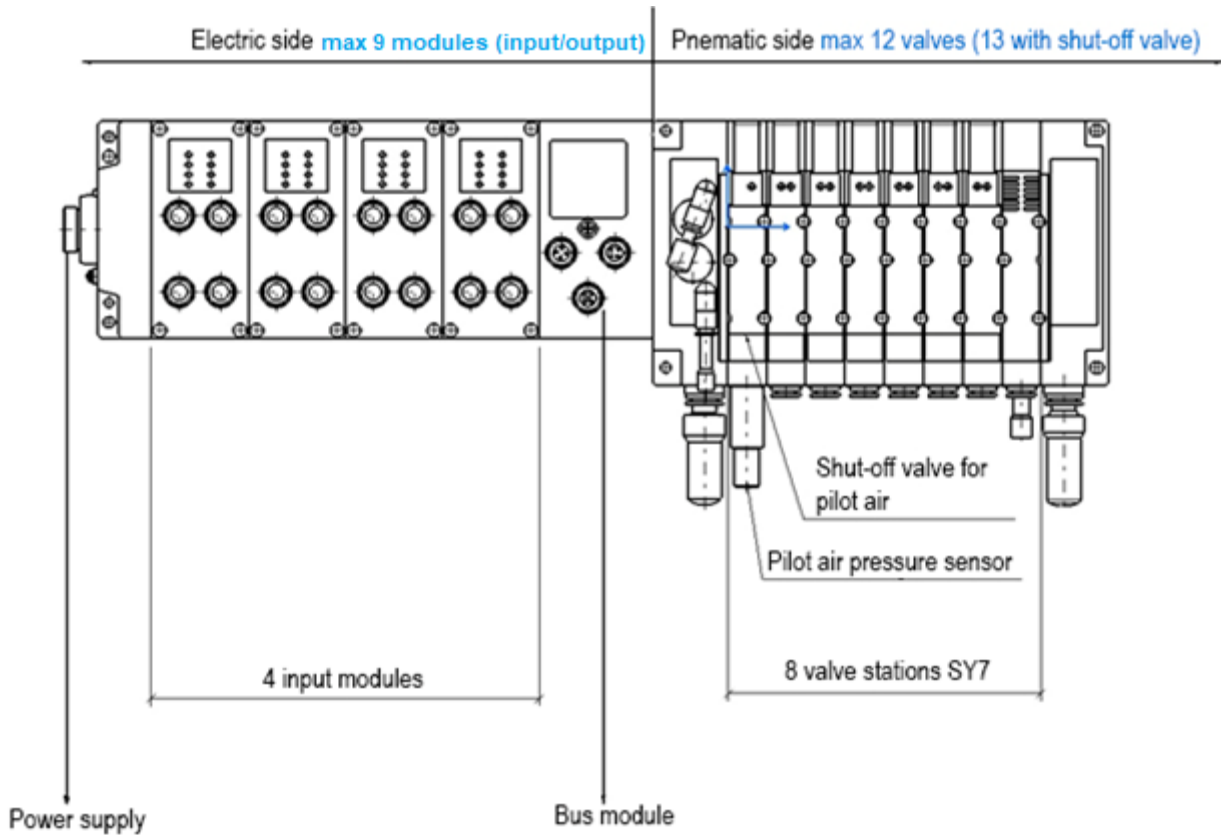
Illustration	Part	Description	Web link
	Pulse Blow Valve Efficient blowing process with pulsating compressed air	AXTS series Port size: G1/2" Operating pressure: 2 – 10 bar flow: 2700 – 3.300 l/min pneumatically operated	AXTS

Part	operated	Bemerkung	Part number
Impulse blow valve	pneumatically	5/2 way valve, Frequency setting range 1 - 5 Hz	AXTS040F-2-X2
Impulse blow valve with external pilot air	pneumatically	5/2 way valve, Frequency setting range 1 - 8 Hz	AXTS040F-3-X2

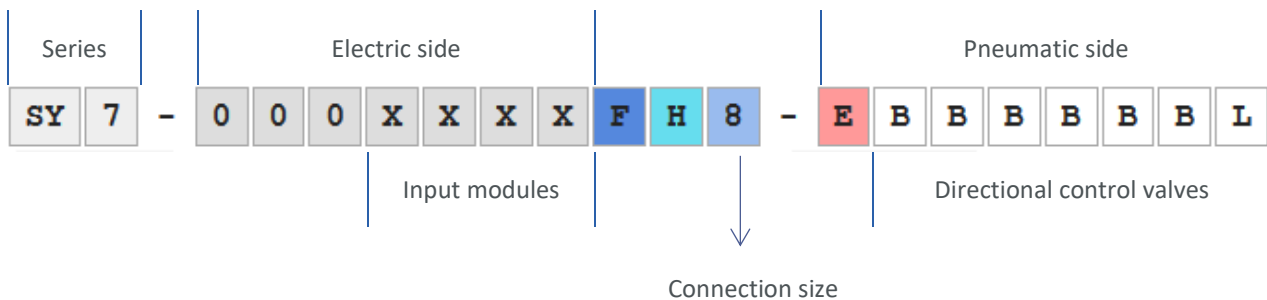
4 Description of Built-up of Valve Manifold SY7000 Series acc. to Specification List

4.1 Built-up of valve manifold SY7000 + EX600, with shut-off valve

[Link back to description](#)

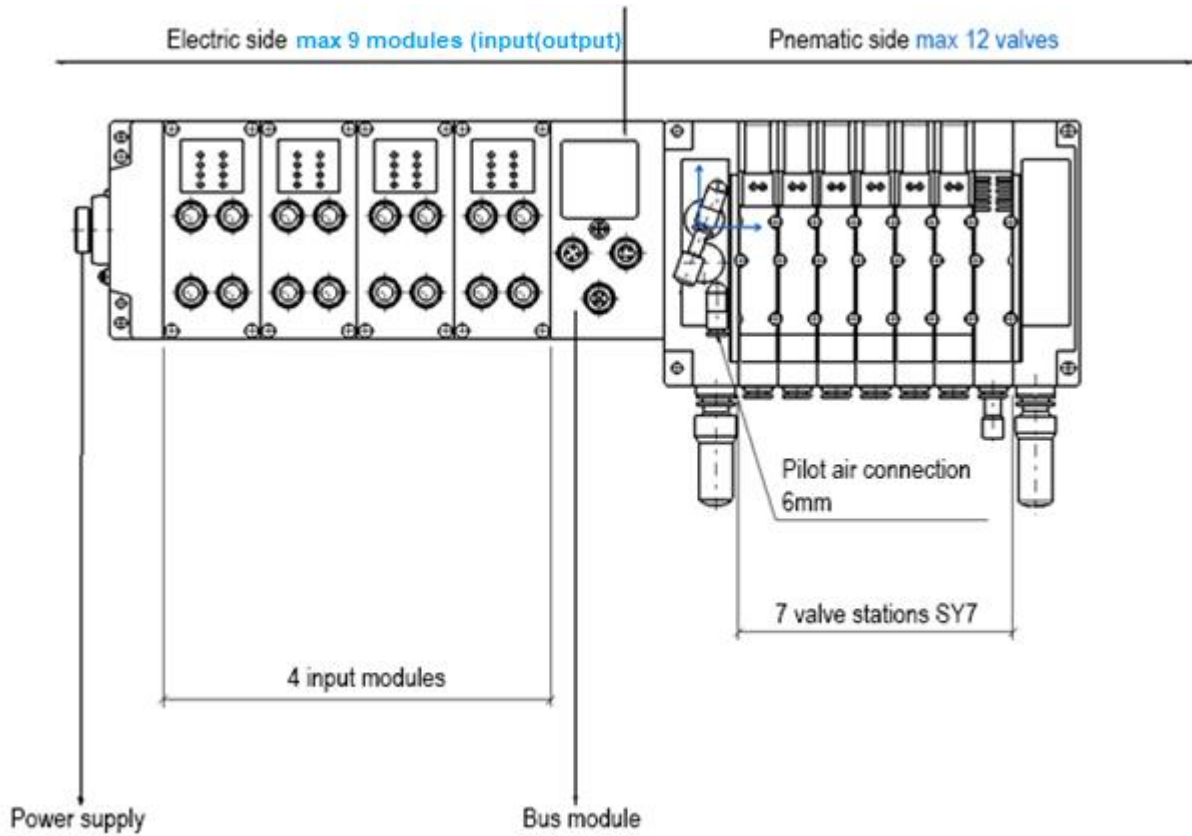


Order code of SY7000 manifold from above

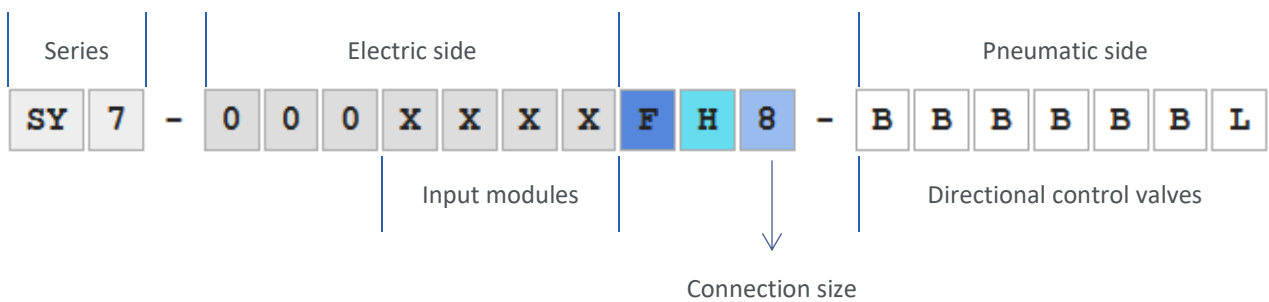


4.2 Built-up of valve manifold SY7000 + EX600, without shut-off valve

[Link back to description](#)



Order code of SY7000 manifold from above



4.3 Explanation of order code characters of the sample configuration of SY7000

[Link back to description](#)

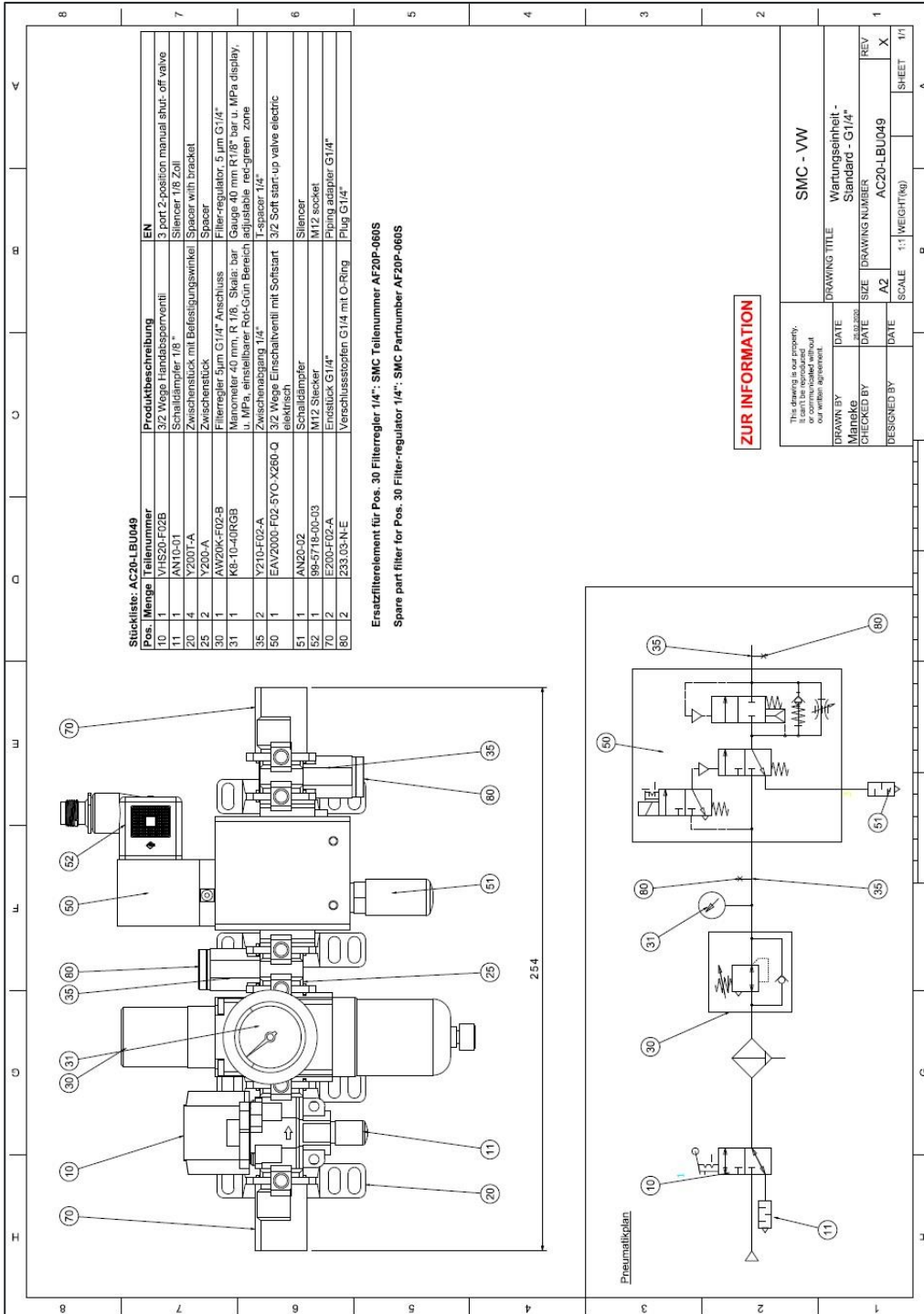
Part	Pos. no.	Id. code	Part number
Communication module PROFINET	3	H	EX600-SPN1
port: M12 (2 x) D-coded, 4-pol.	3	T	EX600-SPN3
fastener			EX600-ZMV2
Digital input module, 8 inputs, (8 x) M8, 3-pol. only after consultation and written approval responsible electrical department!	2	V	EX600-DXPC
Digital input module, 8 inputs, (4 x) M12, 5-pol.	2	X	EX600-DXPB
Digital input module, 16 inputs, (8 x) M12, 5-pol.	2	Y	EX600-DXPD
Digital output module, 8 outputs, (4 x) M12, 5-pol., 0,5 A	2	Z	EX600-DYPB
Digital output module, 8 outputs, (4 x) M12, 5-pol.; 1,5 A Module with extra 7/8 power supply!	2	W	EX600-DYPG1-X27
Left side end plate, 7/8 inch 5-pin	1	H	EX600-ED3-X75
External pilot air control valve, 5/2 monostable	8	E	SY5100T-5NZ1-X310
Sub-plate for pilot air control valve, modular type	10	E	SY70M-2-19DA-C0
2 x 3/2 direction control valve, N.C.-N.C.	7	A	SY7A00R-5U1-X323
5/2 direction control valve, monostable	7	M	SY7100R-5U1-X350
5/2 direction control valve, bistable, both side locking	7	B	SY7200R-5U1-X25
5/3 direction control valve, exhaust center	7	O	SY7400R-5U1-X315
5/3 direction control valve, pressurized center	7	D	SY7500R-5U1-X315
5/3 direction control valve, exhaust center, one-side locking	7	X	SY7400R-5NZ1-X312
Sub-plate applicable tube size \varnothing 8 mm	5	8	SY70M-2-1DA-C8
Sub-plate modular type applicable tube size \varnothing 10 mm	5	0	SY70M-2-1DA-C10
Blanking plate	7	L	SY70M-26-1A
Left-side end plate for valve manifold, tube size \varnothing 12 mm	4	F	SY70M-1-1AR-C12
Right-side end plate for valve manifold, tube size \varnothing 12 mm	6	F	SY70M-3-1A-C12
Silencer	11	F	AN30-C12
Pressure sensor	9	E	F08-7000-M12-M
SUP blocking disk assembly for sub-plate			SY70M-40-1A
EXH blocking disk assembly for sub-plates			SY70M-40-1A

5 Data sheets

5.1 Air preparation units from modular components according to VW standards

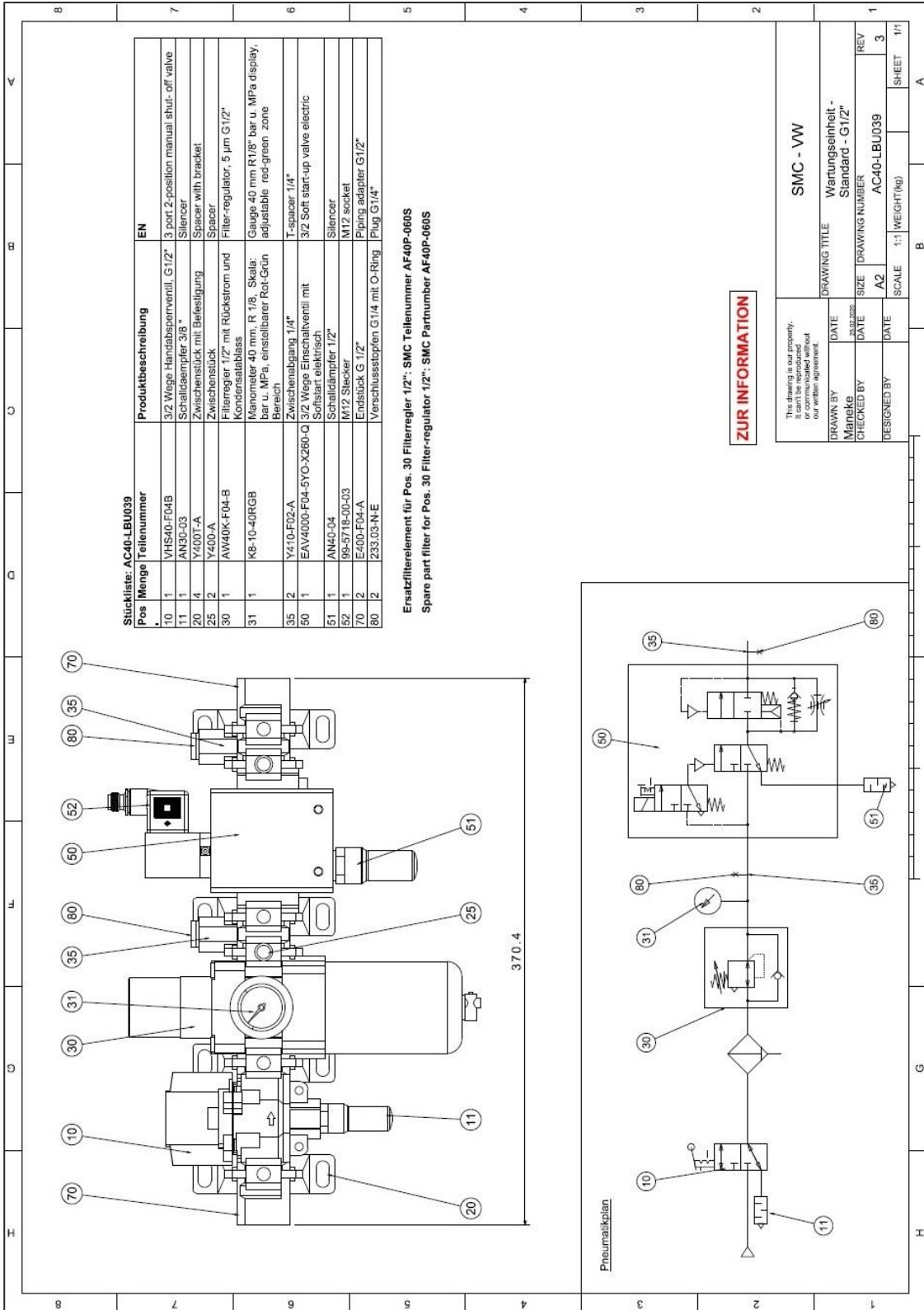
5.1.1 Standard air preparation unit - G 1/4 - AC20-LBU049

[Link back to description](#)



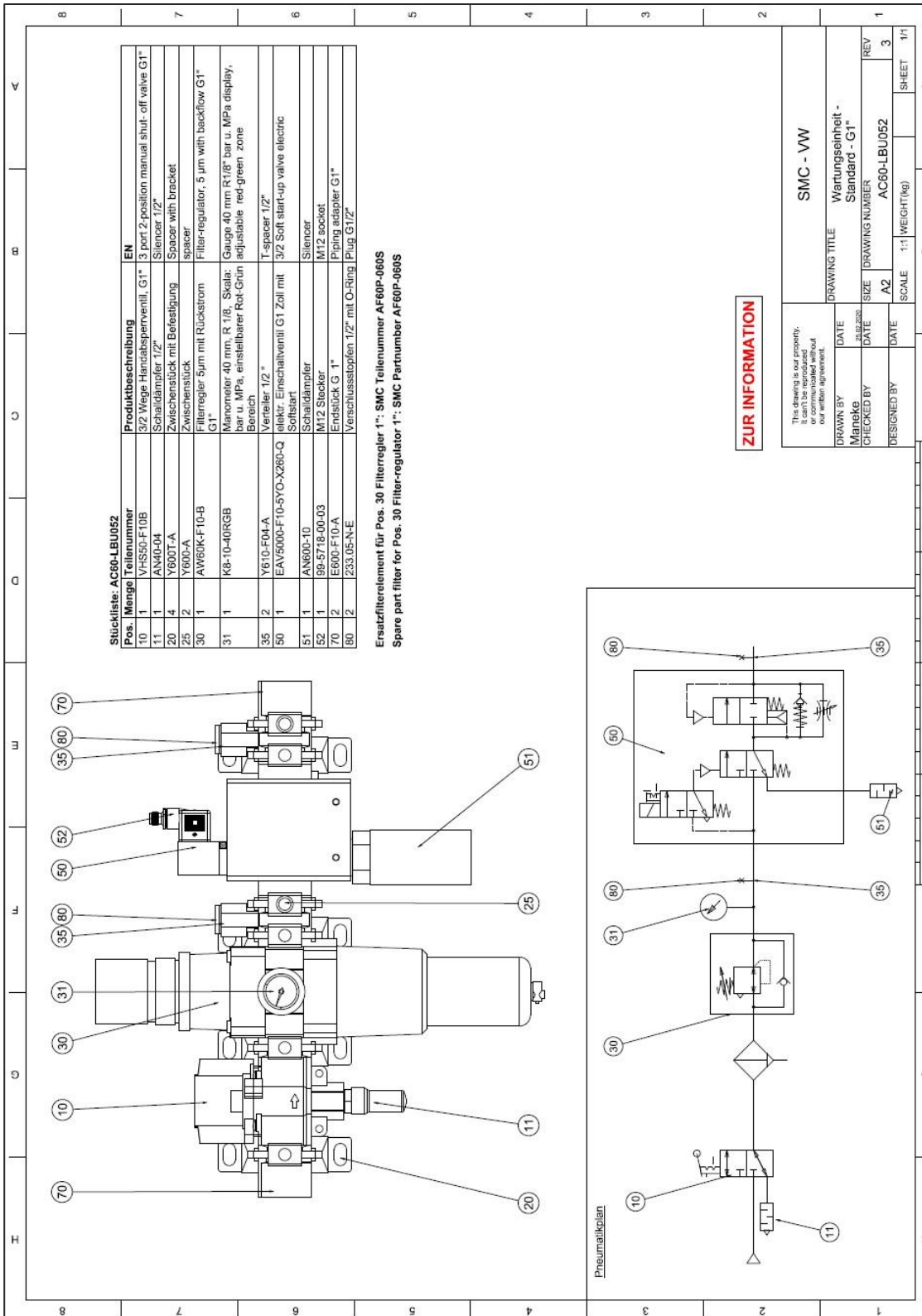
5.1.2 Standard air preparation unit - G 1/2 - AC40-LBU039

[Link back to description](#)



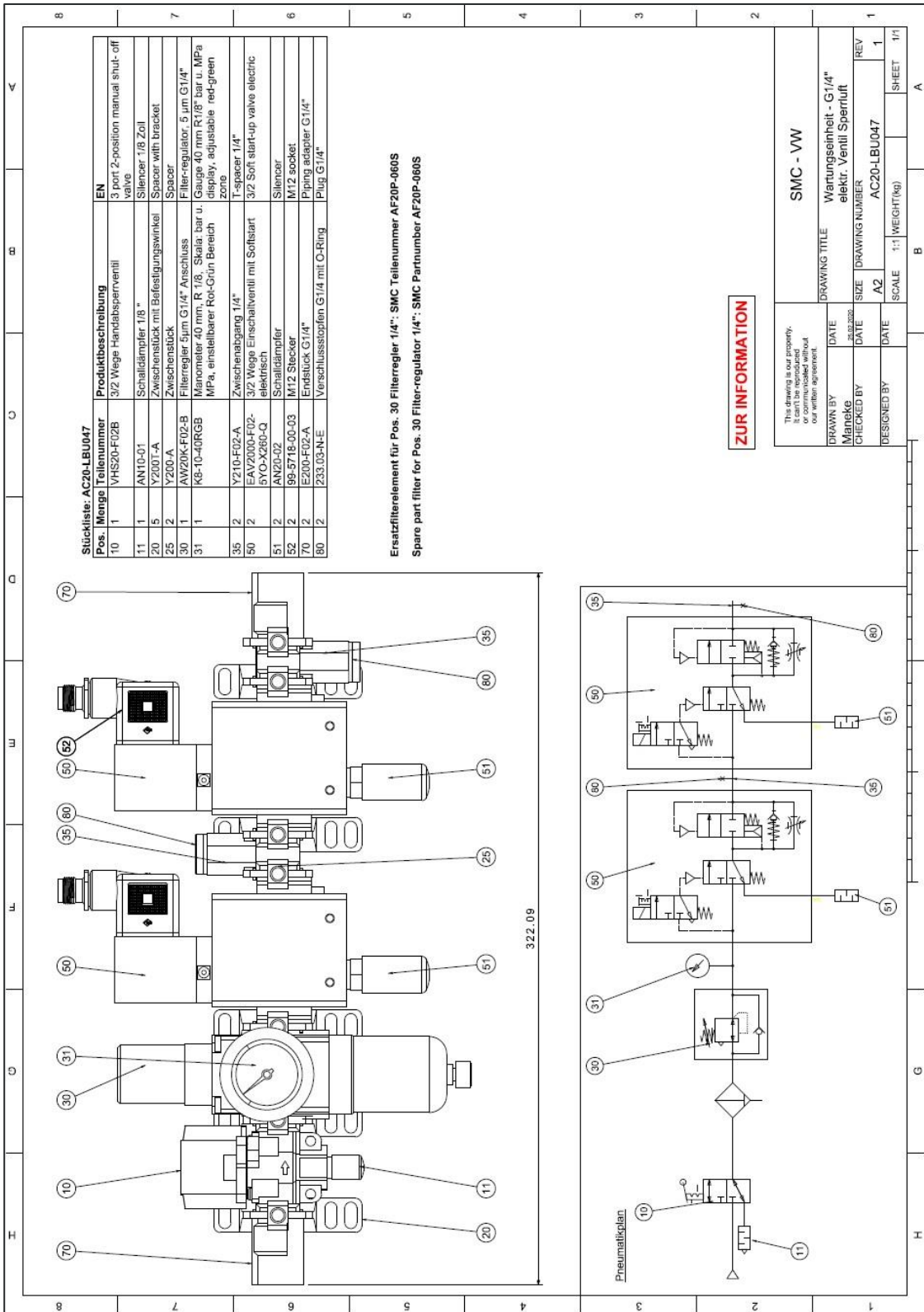
5.1.3 Standard air preparation unit - G 1 - AC60-LBU052

[Link to description](#)



5.1.4 Air preparation unit with electric valve and connection for sealing air - G 1/4 - AC20-LBU047

[Link to description](#)



5.1.5 Air preparation unit with electric valve and connection for sealing air - G 1/2 - AC40-LBU037

[Link to description](#)

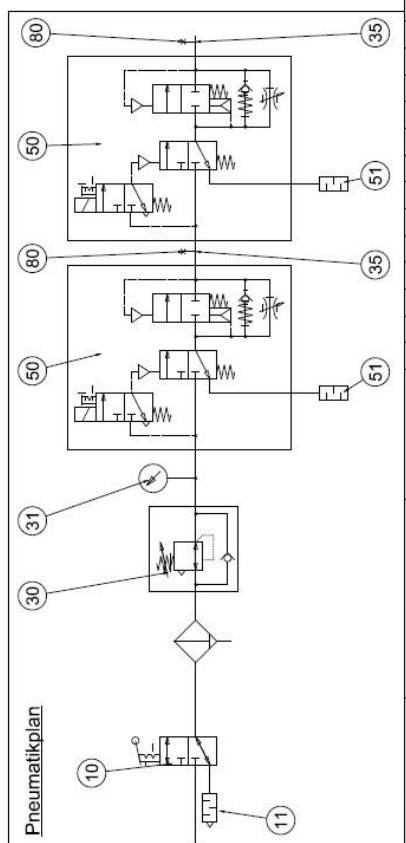
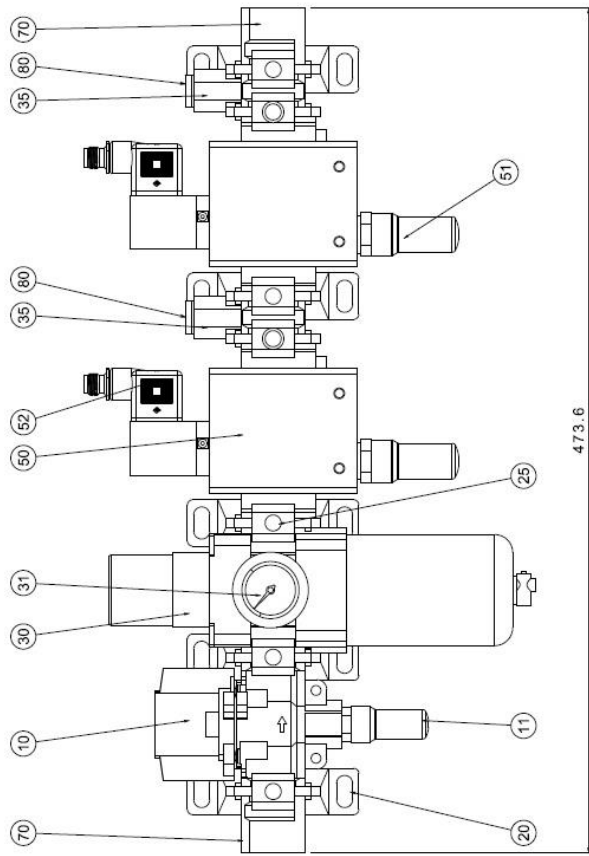
Pos.	Menge	Teilenummer	Produktbeschreibung	EN
10	1	VHS40-F04B	3/2 Wege Handabsperventill, G1/2"	3 port 2-position manual shut-off valve
11	1	AN30-03	Schalldämpfer 3/8"	Silencer
20	5	Y4001-A	Zwischenstück mit Befestigung	Spacer with bracket
25	2	Y400-A	Zwischenstück	Spacer
30	1	AW40K-F04-B	Filterregler 1/2" mit Rückstrom und Kondensatablass	Filter-regulator, 5 µm G1/2"
31	1	K8-10-40RGB	Manometer 40 mm, R 1/8, Skala: bar u. MPa, einstellbarer Rot-Grün Bereich	Gauge 40 mm R1/8" bar u. MPa display, adjustable red-green zone
35	2	Y410-F02-A	Zwischenabgang 1/4"	T-spacer, 1/4"
50	2	EAV4000-F04-SYO-	3/2 Wege Einschaltventill mit X280-Q	3/2 Soft start-up valve electric
51	2	AN40-04	Schalldämpfer 1/2"	Silencer
52	2	9A-5718-00-03	M12 Stecker	M12 socket
70	2	E400-F04-A	Endstück G 1/2"	Piping adapter G1/2"
80	2	Z35.03-N-E	Verschlussstopfen G1/4 mit O-Ring	Plug G1/4"

Ersatzfilterelement für Pos. 30 Filterregler 1/2": SMC Teilenummer AF-APP-060S
Spare part filter for Pos. 30 Filter-regulator 1/2": SMC Partnumber AF-40P-060S

ZUR INFORMATION

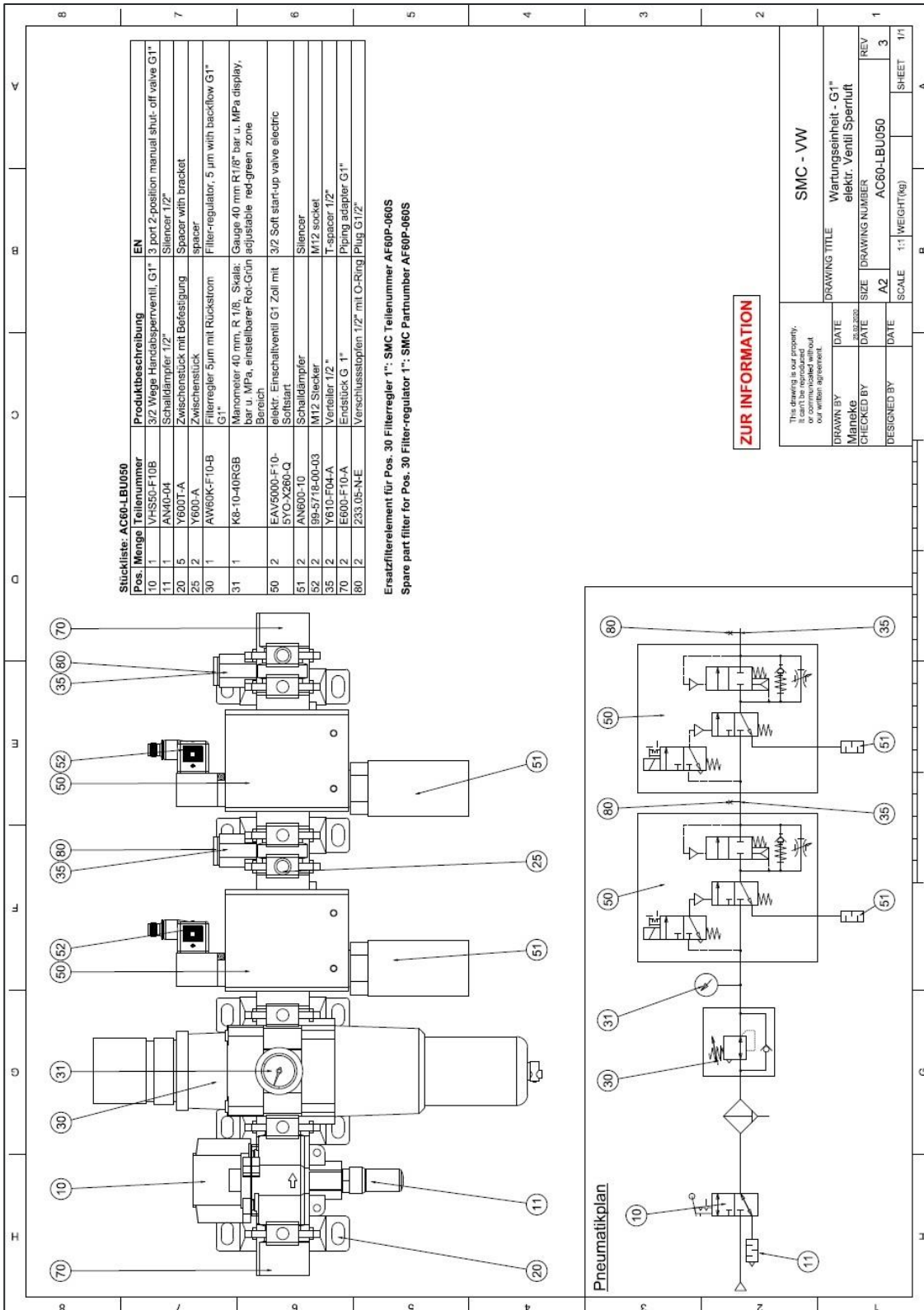
This drawing is our property. It can't be reproduced or used in any manner without our written agreement.

DRAWING TITLE		SMC - VW	
DATE	2023.03.03	DRAWING NUMBER	REV
DRAWN BY	Manérgs	SIZE	A2
CHECKED BY		SCALE	1:1 (WEIGHT(Ng))
DESIGNED BY			SHEET 1/1



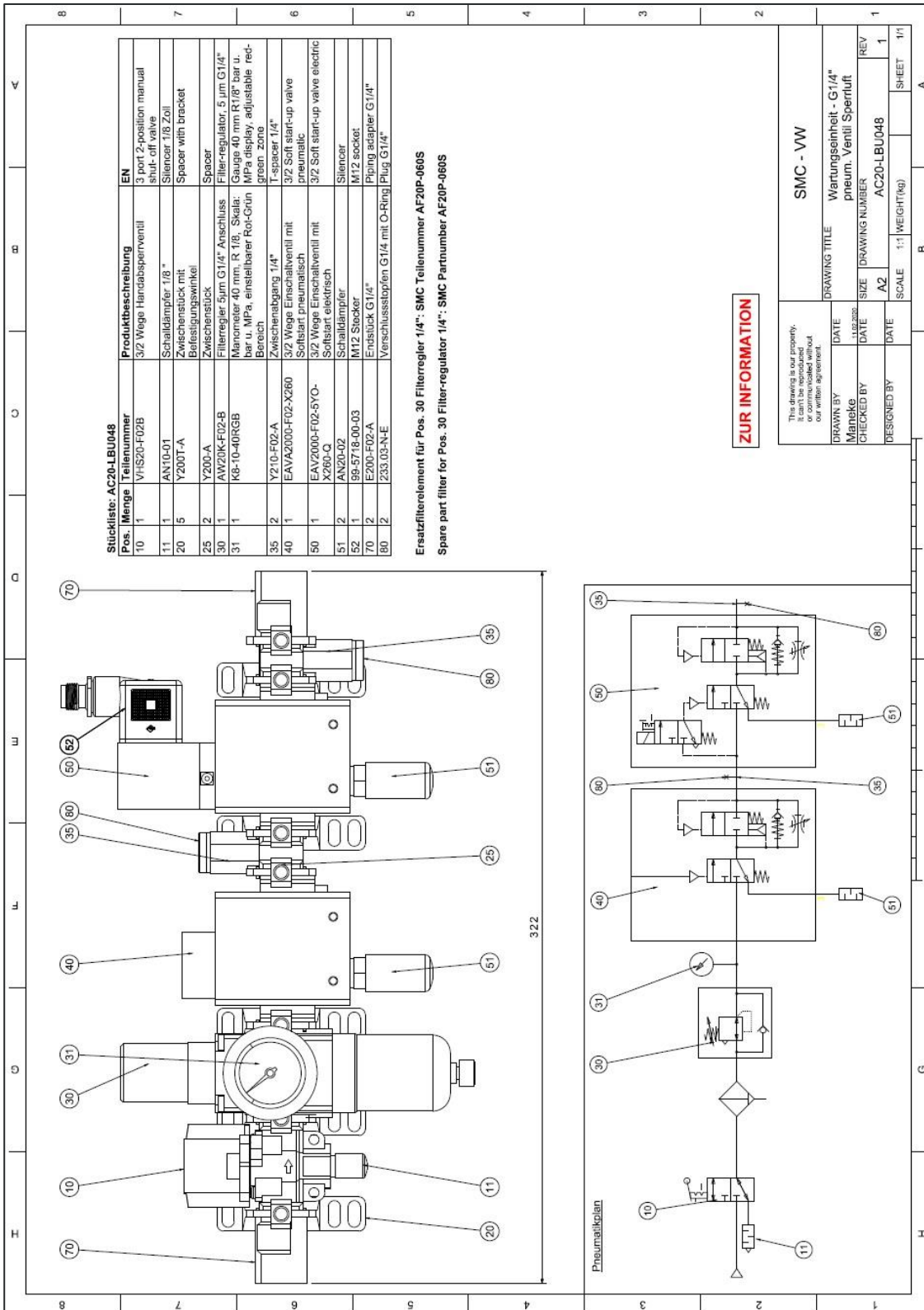
5.1.6 Air preparation unit with electric valve and connection for sealing air -
G 1 - AC60-LBU050

[Link to description](#)



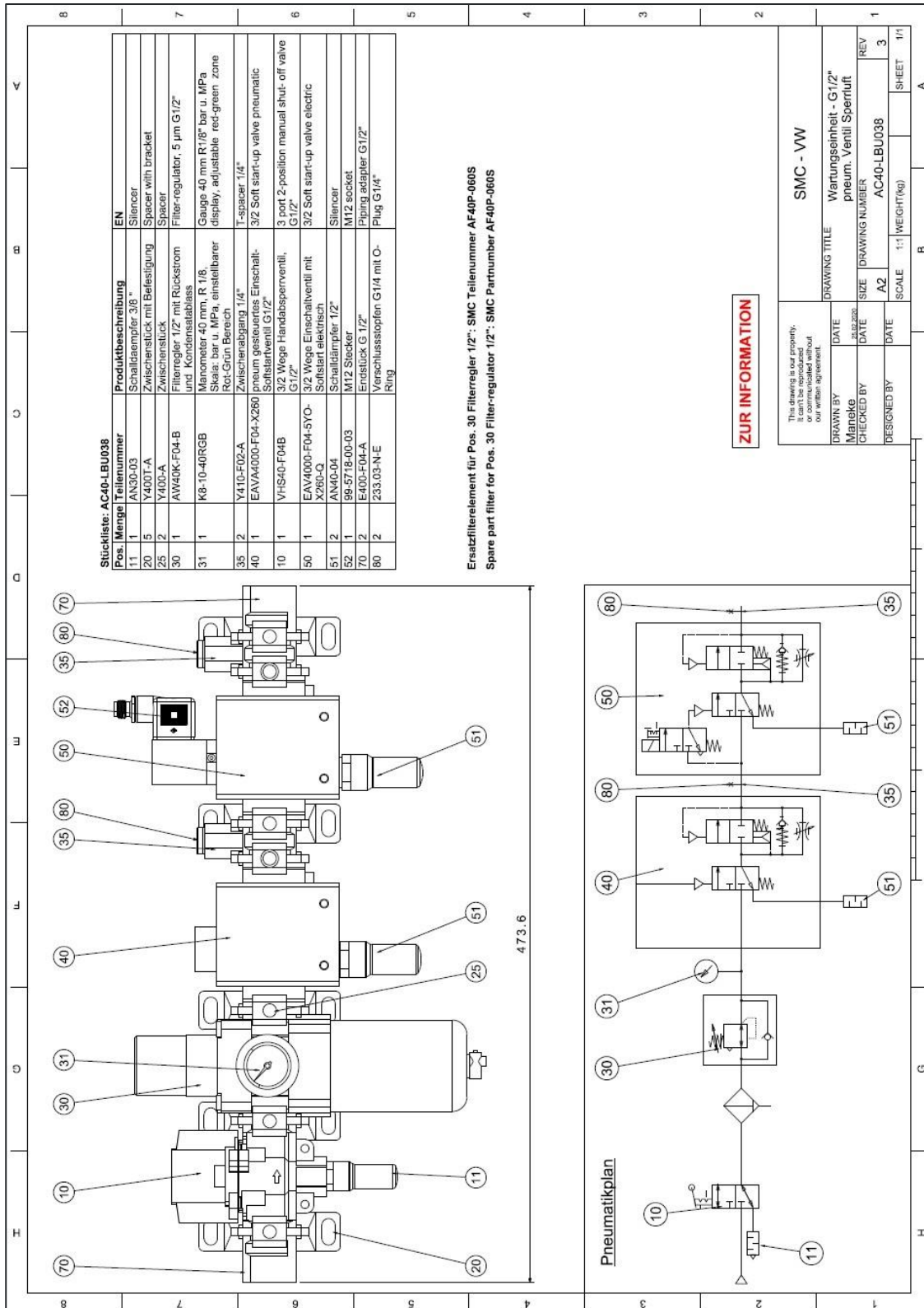
5.1.7 Air preparation unit with pneumatic valve and connection for sealing air - G 1/4 - AC20-LBU048

[Link to description](#)



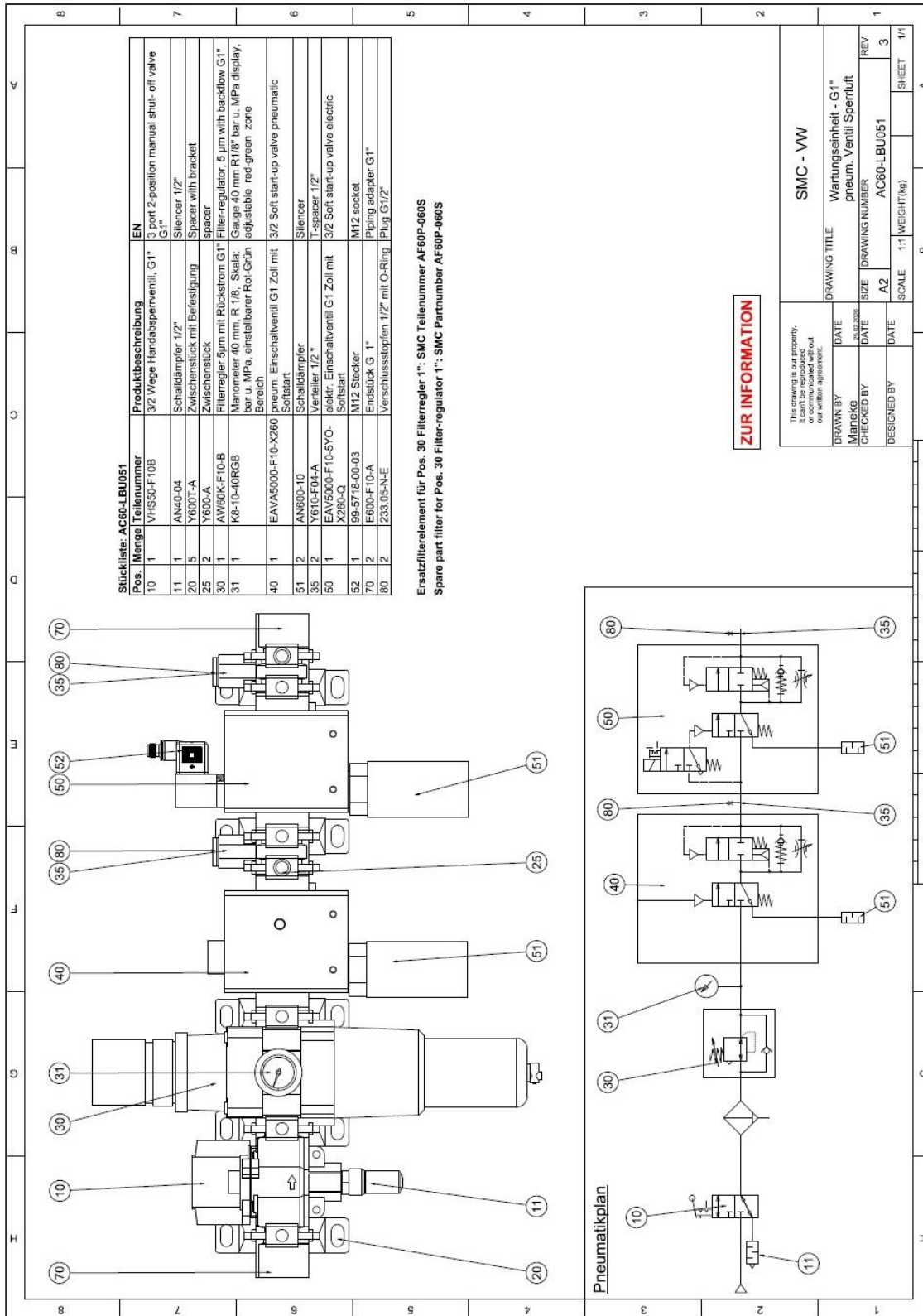
5.1.8 Air preparation unit with pneumatic valve and connection for pilot air - G 1/2 - AC40-LBU038

[Link to description](#)



5.1.9 Air preparation unit with pneumatic valve and connection for pilot air - G 1 - AC60-LBU051

[Link to description](#)



5.1.10 Air preparation unit for pilot air - G1/4 – AC20-LPY156

[Link to description](#)

