



## **R1 41 01 05      Technical Directive**

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

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### Information on

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companies, managers and users  
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companies, managers and users

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**5.1. Double acting cylinders PN 10**

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**5.1.1. *Scope and application***

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Double acting cylinders with tie rods and piston diameters from 32 up to 320 mm. The  
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Part 5: Selection cylinders and air motors

here specified cylinders fulfil both ISO 6431 and VDMA 24562 standards.

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The cylinders are suitable for filtered expressed air, both lubricated or non lubricated.  
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companies, managers and users  
Part 5: Selection cylinders and air motors

Cushioning at both ends.

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Following detachable mountings are preferred:

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Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

– Cap detachable clevis

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

(ISO MP2 en VDMA part 2 nr.2)

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Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

– Cap detachable eye

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(ISO MP4 en VDMA part 2 nr. 3)

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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors



– Trunnion

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(ISO MT4 en VDMA part 2 nr.7)

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Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

– End angles mounting

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

(ISO MS1 en VDMA part 2 nr.6)

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– Rod eye with ball bearing

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(according ISO 8139)

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Part 5: Selection cylinders and air motors



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Part 5: Selection cylinders and air motors

For the diameter selection of the cylinder is to be calculated with a loss of 8 to 10% due to R1 41 01 05

Pneumatics directive for suppliers, erection companies, managers and users

Part 5: Selection cylinders and air motors

friction.

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Stroke according list; only if the assembly of the cylinder is impossible, intermediate  
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values may be applied.

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Basic assembly of the cylinder including nut on piston rod.

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For magnet cylinders too, the above mentioned specification is valid. Dimensions are  
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Part 5: Selection cylinders and air motors



identical.

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Only deviations are:

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– ring shape magnet in piston

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– tube is aluminium or brass.

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Note.: the dimensions do not change.

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5.1.2. *Manufacturers*

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**5.1.2.art.a. Norgren**

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Note: up to 100 mm, the cylinder is standard equipped with a magnet in the piston.

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Selection according schemes here under:

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Cylinder for applications up to 10 bar  
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Pneumatics directive for suppliers, erection  
companies, managers and users  
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R A / 8 ...<sup>1)</sup> / M<sup>2)</sup> / ...<sup>3)</sup> + .....<sup>4)</sup> )<sup>5)</sup>

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Pneumatics directive for suppliers, erection  
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1) Piston diameter in mm

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Part 5: Selection cylinders and air motors

32

8032

125

8125

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Part 5: Selection cylinders and air motors

40

8040

160

8160

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Part 5: Selection cylinders and air motors

50

8050

200

8200

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Part 5: Selection cylinders and air motors

63

8063

250

8250

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Part 5: Selection cylinders and air motors

80

8080

320

8320

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Part 5: Selection cylinders and air motors

100

8100

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2) M is standard up to 100 mm.

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For larger diameters M is optional for magnet in piston.

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Part 5: Selection cylinders and air motors

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companies, managers and users

Part 5: Selection cylinders and air motors

3) Stroke lengths in mm

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

25 - 50 - 80 - 100 - 125 - 160 - 200 - 250 - 320 - 400 - 500 - 630 - 800 - 1000 - 1250 -  
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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

1600 - 2000 - 2500 - 3150 - 4000.

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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors



4) Addition for mounting accessories:

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Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

D= cap detachable clevis

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R= cap detachable eye

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H= trunnion

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Without separate information, the trunnion will be fixed in the middle  
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position.

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If not possible, consult the engineer involved

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C= end angles mounting

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UF= rod eye with ball bearing fixed on rod

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Part 5: Selection cylinders and air motors

5) For magnet cylinders to be added QM/32/2 for the reedcontact(s).

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Part 5: Selection cylinders and air motors

This switch is equipped with LED and 2 metres of connecting cable.

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Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors

**5.1.2.art.b. Parker**

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Part 5: Selection cylinders and air motors

Ordering code:

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Part 5: Selection cylinders and air motors



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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

...<sup>1)</sup> - 2110A <sup>2)</sup> - ...<sup>3)</sup> + .....<sup>4)</sup><sup>5)</sup>)

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companies, managers and users  
Part 5: Selection cylinders and air motors

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Part 5: Selection cylinders and air motors

1) Cylinder diameter 32 - 40 - 50 - 63 - 80 - 100 - 125 - 160 - 200

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Part 5: Selection cylinders and air motors

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Part 5: Selection cylinders and air motors

2) Basic cylinder = 2110A, magnet cylinder = 2110B

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3) Stroke lengths in mm

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25 - 50 - 80 - 100 - 125 - 160 - 200 - 250 - 320 - 400 - 500 - 630 - 800 - 1000 - 1250 -  
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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors

1600 - 2000 - 2500 - 3150 - 4000.

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Part 5: Selection cylinders and air motors

4) Addition for mounting accessories:

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2800 B = cap detachable clevis

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Part 5: Selection cylinders and air motors

2800 C = cap detachable eye

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Part 5: Selection cylinders and air motors

2110 G = trunnion

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Part 5: Selection cylinders and air motors

2110H = trunnion plus magnet piston

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Trunnion will be fixed in the middle position. If impossible consult the engineer  
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companies, managers and users  
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involved.

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Part 5: Selection cylinders and air motors

2800D = end angles mounting

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Part 5: Selection cylinders and air motors

Rod eye with ball bearing mounted on rod add:

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Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Piston diameter

Ball

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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



50, 63

4078-16

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

80, 100

4078-20

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companies, managers and users  
Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

160, 200

4078-36

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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

5) Add 4621A for reedcontact(s).

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Part 5: Selection cylinders and air motors

Switch equipped with LED and 3 m. connecting cable.

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Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors



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**5.1.3. Construction**

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Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

**5.1.3.art.a. Basic dimensions**

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Figure 5.1**

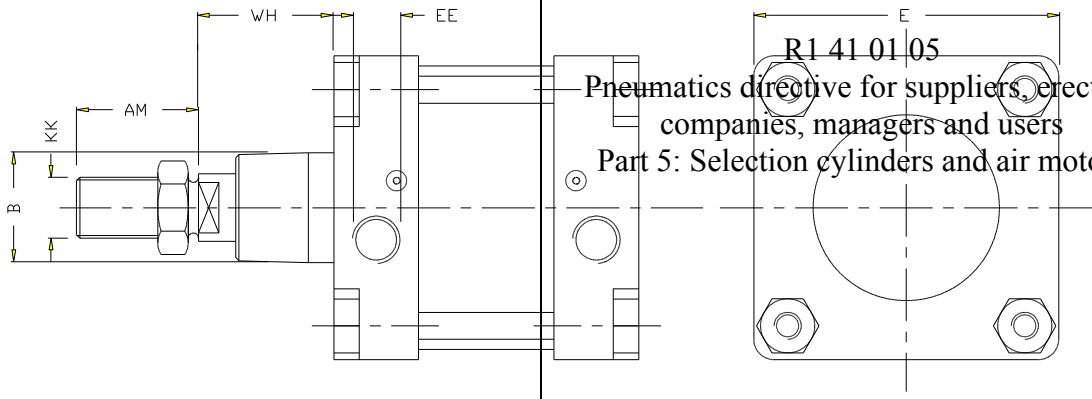
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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



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Part 5: Selection cylinders and air motors

**Scheme 5.1**

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Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

Dimensions in mm (unless otherwise stated)

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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors



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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors

Cylinder diameter	ø B	AM	WH	E max	R1	EE BSP	KK
-------------------	-----	----	----	-------	----	--------	----

Pneumatics directive for suppliers, erection companies, managers and users  
Part 5: Selection cylinders and air motors

32

30

22

26

50

G 1/8"

M10 x 1,25

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

40

35

24

30

58

G 1/4"

M12 x 1,25

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

50

40

32

37

70

G 1/4"

M16 x 1,5

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

63

45

32

37

85

G 3/8"

M16 x 1,5

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

80

45

40

46

105

G 3/8"

M20 x 1,5

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

100

55

40

51

130

G 1/2"

M20 x 1,5

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



125

60

54

65

157

G 1/2"

M27 x 2

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

160

65

72

80

195

G 3/4"

M36 x 2

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

200

75

72

95

238

G 3/4"

M36 x 2

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

250

90

84

105

290

G 1 "

M42 x 2

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companies, managers and users  
Part 5: Selection cylinders and air motors

320

110

96

120

353

G 1 "

M42 x 2

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**5.1.3.art.b. Cap detachable clevis MP.2**

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Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors



**Figure 5.2**

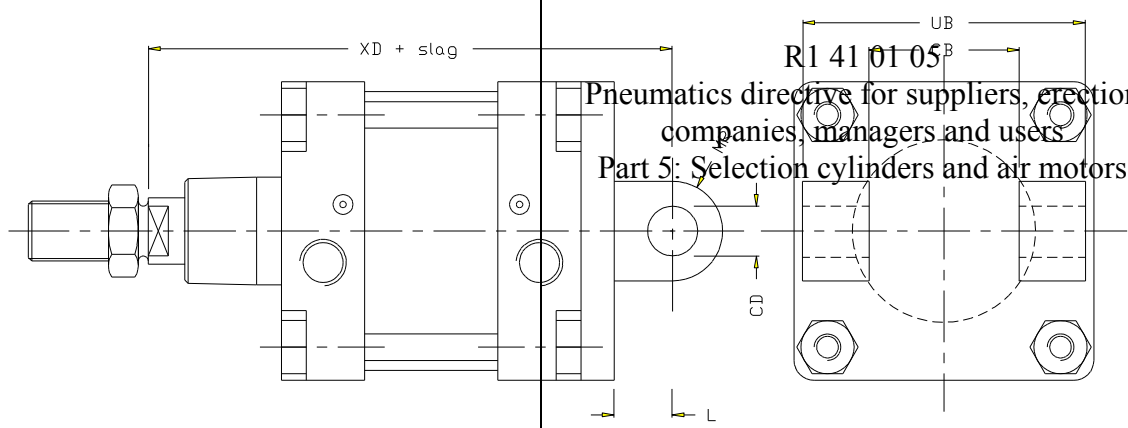
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Pneumatics directive for suppliers, erection companies, managers and users  
 Part 5: Selection cylinders and air motors

**Scheme 5.2**

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Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

Dimensions in mm

R1 41 01 05  
Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

Piston diameter	XD	L min.	CD H9	CB H14	UB H14	MR max.
-----------------	----	--------	-------	--------	--------	---------

R1 410105

Pneumatics directive for suppliers, erection companies, managers and users  
Part 5: Selection cylinders and air motors

32

142

12

10

26

45

11

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



40

160

15

12

28

52

13

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

50

170

15

12

32

60

13

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

63

190

20

16

40

70

17

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

80

210

20

16

50

90

17

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

100

230

25

20

60

110

21

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

125

275

30

25

70

130

26

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

160

315

35

30

90

170

31

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

200

335

35

30

90

170

31

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



250

375

45

40

110

200

41

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

320

420

50

50

120

220

46

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

**5.1.3.art.c. Cap detachable eye MP4**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Figure 5.3**

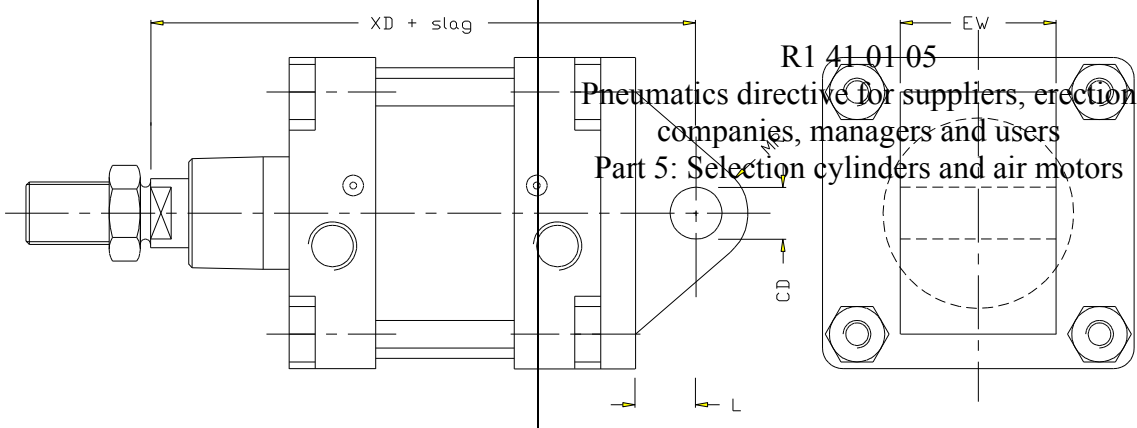
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



R1 41 01 05

Pneumatics directive for suppliers, erection companies, managers and users  
Part 5: Selection cylinders and air motors



**Scheme 5.3**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Dimensions in mm

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Piston diameter	XD	MR	max.	EW -td.	R1 410105	L min.	CD H9
-----------------	----	----	------	---------	-----------	--------	-------

Pneumatics directive for suppliers, erection companies, managers and users  
Part 5: Selection cylinders and air motors

32

142

11

26

12

10

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

40

160

13

28

15

12

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

50

170

13

32

15

12

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

63

190

17

40

20

16

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



80

210

17

50

20

16

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

100

230

21

60

25

20

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

125

275

26

70

30

25

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

160

315

31

90

35

30

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

200

335

31

90

35

30

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

250

375

41

110

45

40

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

320

420

46

120

50

45

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors



R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**5.1.3.art.d. Trunnion MT4**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Figure 5.4**

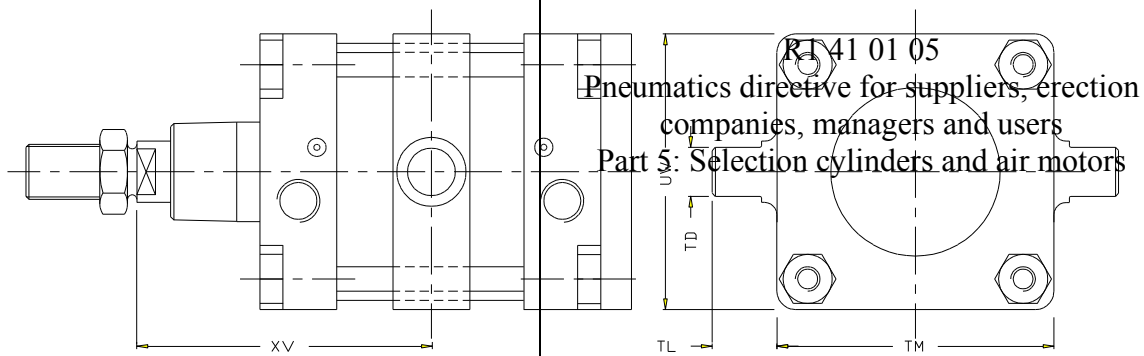
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors



RT 41 01 05  
Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Scheme 5.4**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

Dimensions in mm

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors



Piston diameter	TM h14	TL h14	UW max. R1 41 XY 1) 01 03	TD e9
-----------------	--------	--------	---------------------------	-------

Pneumatics directive for suppliers, erection companies, managers and users  
Part 5: Selection cylinders and air motors

32

50

12

65

73

12

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

40

63

16

75

82,5

16

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

50

75

16

95

90

16

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

63

90

20

105

97,5

20

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

80

110

20

130

110

20

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

100

132

25

145

120

25

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

125

160

25

175

145

25

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



160

200

32

220

170

32

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

200

250

32

260

185

32

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

250

320

40

320

205

40

~~R1 41 01 05~~

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

320

400

50

400

230

50

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

<sup>1)</sup> if no dimensions will be specified, the trunnion will be fixed on the value xv.  
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors



**5.1.3.art.e. End angles mounting MS.1**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Figure 5.5**

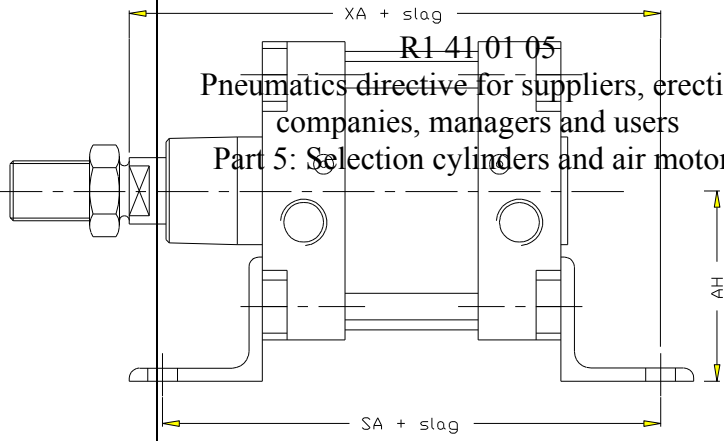
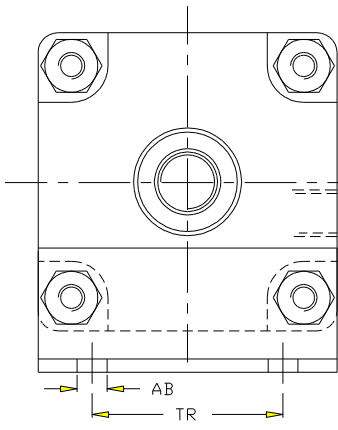
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



R1 41 01 05  
Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Scheme 5.5**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Dimensions in mm

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Piston diameter	XA	SA	AB diam. H14 R1	TR 41 01 05	AH
-----------------	----	----	--------------------	----------------	----

Pneumatics directive for suppliers, erection companies, managers and users  
Part 5: Selection cylinders and air motors



32

144

142

7

32

32

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

40

163

161

10

36

36

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

50

175

170

10

45

45

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

63

190

185

10

50

50

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

80

215

210

12

63

63

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

100

230

220

14,5

75

71

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

125

270

250

16,5

90

90

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

160

320

300

18,5

115

115

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



200

345

320

24

135

135

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

250

380

350

28

165

165

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

320

425

390

35

200

200

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**5.1.3.art.f. Rod eye mounting**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Rod eye with ball bearing on piston rod

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Figure 5.6**

R1 41 01 05

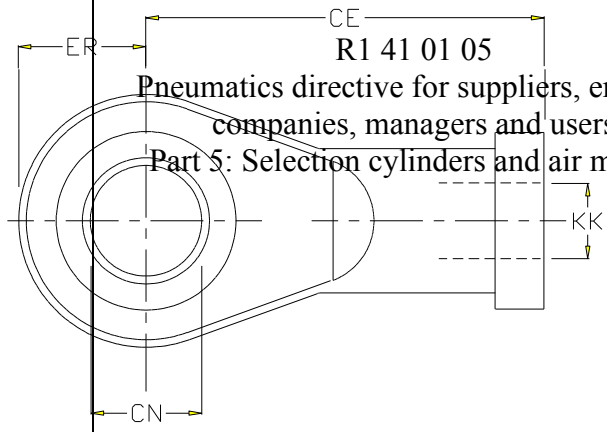
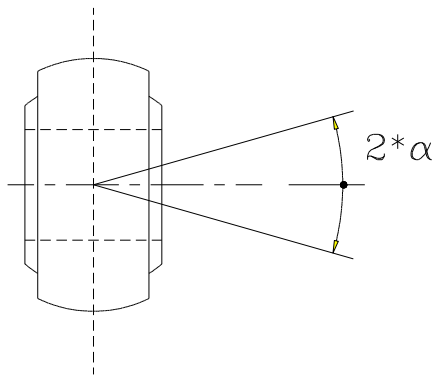
Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors



R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



R1 41 01 05  
Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Scheme 5.6**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Piston diameter	$\alpha$	ER	CN	CE R1 41 01 05	KK
-----------------	----------	----	----	-------------------	----

Pneumatics directive for suppliers, erection companies, managers and users  
Part 5: Selection cylinders and air motors

32

13

14

10

43

M10 x 1,25

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

40

13

16

12

50

M12 x 1,25

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

50

15

21

16

64

M16 x 1,5

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



63

15

21

16

64

M16 x 1,5

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

80

15

25

20

77

M20 x 1,5

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

100

15

25

20

77

M20 x 1,5

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

125

15

35

30

110

M27 x 2

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

160

16

40

35

125

M36 x 2

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

200

16

40

35

125

M36 x 2

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

250

17

45

40

142

M42 x 2

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

320

12

58

50

160

M48 x 2

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

**5.2. Air motors PN 10**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**5.2.1. *Scope and application***

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Air motors are often specified for a special purpose, which means that no strict directives  
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

can be given. The here mentioned manufacturers and types are listing a number of motors  
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

which are used commonly at Corus area and are of proven quality. Selection out of this list  
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

is preferred, moreover because of the presence of spare motors or parts.

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors



5.2.2. *Manufactures*

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Vane motors**

**Piston motors**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

*Non reversible:*

*Reversible:*

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Atlas Copco

Atlas Copco

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Globe

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

*Reversible:*

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Atlas Copco

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



Ingersoll-Rand

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Düsterloh

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Specifications are valid at an air pressure of 6,2 bar (90 psi).

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Other types after agreement only.

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

P = maximum power

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



T = torque at maximum power

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

n = speed at maximum power.

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

5.2.3. *Execution*

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Vane motors**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

*Non reversible:*

P (kW)	T (Nm)	n (rpm)
--------	--------	---------

Pneumatics directive for suppliers, erection companies, managers and users  
Part 5: Selection cylinders and air motors



Atlas Copco, LZB-44-A-022-11

| 0,62 | 5,3 | 1100 |  
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

*Reversible:*

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Atlas Copco

| R1 41 01 05 |

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

LZB-22-AR003-11

| 0,16 | 10,8 | 140 |  
R1 41 01 05  
Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

LZB-44-AR027-11

| 0,41 | 2,7 | 1420 |  
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

LZB-44-AR006-11

| 0,40 | 11,4 | 330 |  
R1 41 01 05  
Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

LZB-44-AR003-11

| 0,40 | 19,4 | 190 |  
R1 41'01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



Ingersoll-Rand

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

3840-M

1,04

R1 41 01 05<sup>26</sup>

390

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

3840-S

| 1,01 | R1 41 01 05 | 95 | 100 |

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

4840-U2

2,24

R1 250  
41 01 05

83

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Düsterloh,DMO 15-15-FFL

16,5

R1 405 01 05

1500

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

**Piston motors**

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

*Reversible:*

| R1 41 01 05 |

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Atlas Copco

| R1 41 01 05 |

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

MZC-42-G-22-P1

| 1,1 | R1 41 01 05<sup>32</sup> | 320 |

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

MZD-42-G-32-P1

| 1,8 | 56 | 300 |  
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

MZF-42-G-42-P1

| 3 | 125 | 230 |  
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

MZH-42-G-51-P1

| 5 | R1 118 41 01 05 | 400 |

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



Globe, with gear box

| R1 41 01 05 |

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

RM 110 BG + brake i=23,9

0,96

117,5  
R1 41 01 05

84

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

RM 110 BG + brake i=86,6

| 0,96 | 425 | 23 |  
R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

RM 210 BG i=85,2

| 2,43

| 1014  
R1 41 01 05 |

22 |

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

RM 310 BG i=12

| 4,05 | 275 | 133 |  
R1 41 01 05

Pneumatics directive for suppliers, erection  
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Pneumatics directive for suppliers, erection  
companies, managers and users

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companies, managers and users  
Part 5: Selection cylinders and air motors

### 5.3. References

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors



In this Technical Directive reference is made to

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users

Part 5: Selection cylinders and air motors

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ISO

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6431

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Pneumatics directive for suppliers, erection  
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8139

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VDMA 24562.

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Pneumatics directive for suppliers, erection  
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**5.4. Explanation**

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Version 1.0:

R1 41 01 05

Pneumatics directive for suppliers, erection  
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Part 5: Selection cylinders and air motors

none.

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Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

Version 1.1:

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors

logo has changed.

R1 41 01 05

Pneumatics directive for suppliers, erection  
companies, managers and users  
Part 5: Selection cylinders and air motors