



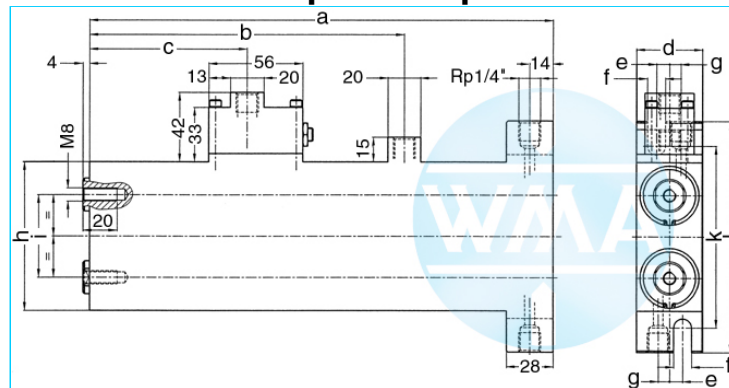
Welding cylinder

Duplex with retract and working stroke

Version: 2011-01

unilateral air connection,
double-stage pressurized

controllable damped independent of stroke



Nominal size 025

| S | WS | a | b | c | d | e | f | g | h | i | k | l | Force* | Order-number |
|-----|----|-----|-----|-----|----|---|----|---|----|----|-----|-----|---------|------------------------|
| 50 | 30 | 348 | 248 | 107 | 30 | 7 | 11 | 7 | 80 | 50 | 100 | 130 | 0.17 kN | 107.111.124.025.050.20 |
| 60 | 20 | 358 | 248 | 107 | 30 | 7 | 11 | 7 | 80 | 50 | 100 | 130 | 0.17 kN | 107.111.124.025.060.20 |
| 70 | 30 | 408 | 288 | 127 | 30 | 7 | 11 | 7 | 80 | 50 | 100 | 130 | 0.17 kN | 107.111.124.025.070.20 |
| 80 | 20 | 418 | 288 | 127 | 30 | 7 | 11 | 7 | 80 | 50 | 100 | 130 | 0.17 kN | 107.111.124.025.080.20 |
| 90 | 40 | 488 | 348 | 157 | 30 | 7 | 11 | 7 | 80 | 50 | 100 | 130 | 0.17 kN | 107.111.124.025.090.20 |
| 100 | 30 | 498 | 348 | 157 | 30 | 7 | 11 | 7 | 80 | 50 | 100 | 130 | 0.17 kN | 107.111.124.025.100.20 |
| 110 | 40 | 548 | 388 | 177 | 30 | 7 | 11 | 7 | 80 | 50 | 100 | 130 | 0.17 kN | 107.111.124.025.110.20 |

S = retract, WS = working stroke, *at 1 bar pressure

Nominal size 032

| S | WS | a | b | c | d | e | f | g | h | i | k | l | Force* | Order-number |
|-----|----|-----|-----|-----|----|---|----|---|----|----|-----|-----|--------|------------------------|
| 50 | 30 | 348 | 248 | 107 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.3 kN | 107.111.124.032.050.20 |
| 60 | 20 | 358 | 248 | 107 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.3 kN | 107.111.124.032.060.20 |
| 70 | 30 | 408 | 288 | 127 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.3 kN | 107.111.124.032.070.20 |
| 80 | 20 | 418 | 288 | 127 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.3 kN | 107.111.124.032.080.20 |
| 90 | 40 | 488 | 348 | 157 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.3 kN | 107.111.124.032.090.20 |
| 100 | 30 | 498 | 348 | 157 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.3 kN | 107.111.124.032.100.20 |
| 110 | 40 | 548 | 388 | 177 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.3 kN | 107.111.124.032.110.20 |

S = retract, WS = working stroke, *at 1 bar pressure

Nominal size 034

| S | WS | a | b | c | d | e | f | g | h | i | k | l | Force* | Order-number |
|-----|----|-----|-----|-----|----|---|----|---|----|----|-----|-----|---------|------------------------|
| 50 | 30 | 348 | 248 | 107 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.34 kN | 107.111.124.034.050.20 |
| 60 | 20 | 358 | 248 | 107 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.34 kN | 107.111.124.034.060.20 |
| 70 | 30 | 408 | 288 | 127 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.34 kN | 107.111.124.034.070.20 |
| 80 | 20 | 418 | 288 | 127 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.34 kN | 107.111.124.034.080.20 |
| 90 | 40 | 488 | 348 | 157 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.34 kN | 107.111.124.034.090.20 |
| 100 | 30 | 498 | 348 | 157 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.34 kN | 107.111.124.034.100.20 |
| 110 | 40 | 548 | 388 | 177 | 40 | 8 | 11 | 7 | 90 | 50 | 110 | 140 | 0.34 kN | 107.111.124.034.110.20 |

S = retract, WS = working stroke, *at 1 bar pressure

We reserve the right to make changes which are in the interest of technical progress.

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Cylinder-Duplex-1



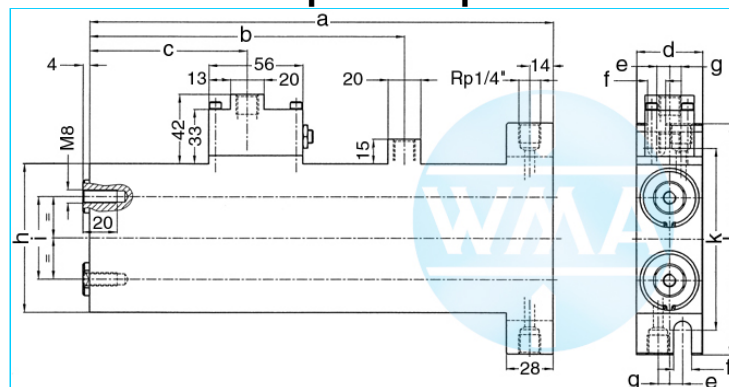
Welding cylinder

Duplex with retract and working stroke

Version: 2011-01

unilateral air connection,
double-stage pressurized

controllable damped independent of stroke



Nominal size 038

| S | WS | a | b | c | d | e | f | g | h | i | k | l | Force* | Order-number |
|-----|----|-----|-----|-----|----|----|----|---|-----|----|-----|-----|--------|------------------------|
| 50 | 30 | 348 | 248 | 107 | 48 | 10 | 13 | 8 | 100 | 50 | 124 | 160 | 0.4 kN | 107.111.124.038.050.30 |
| 60 | 20 | 358 | 248 | 107 | 48 | 10 | 13 | 8 | 100 | 50 | 124 | 160 | 0.4 kN | 107.111.124.038.060.30 |
| 70 | 30 | 408 | 288 | 127 | 48 | 10 | 13 | 8 | 100 | 50 | 124 | 160 | 0.4 kN | 107.111.124.038.070.30 |
| 80 | 20 | 418 | 288 | 127 | 48 | 10 | 13 | 8 | 100 | 50 | 124 | 160 | 0.4 kN | 107.111.124.038.080.30 |
| 90 | 40 | 488 | 348 | 157 | 48 | 10 | 13 | 8 | 100 | 50 | 124 | 160 | 0.4 kN | 107.111.124.038.090.30 |
| 100 | 30 | 498 | 348 | 157 | 48 | 10 | 13 | 8 | 100 | 50 | 124 | 160 | 0.4 kN | 107.111.124.038.100.30 |
| 110 | 40 | 548 | 388 | 177 | 48 | 10 | 13 | 8 | 100 | 50 | 124 | 160 | 0.4 kN | 107.111.124.038.110.30 |

S = retract, WS = working stroke, *at 1 bar pressure

Nominal size 044

| S | WS | a | b | c | d | e | f | g | h | i | k | l | Force* | Order-number |
|-----|----|-----|-----|-----|----|----|----|---|-----|----|-----|-----|---------|------------------------|
| 50 | 30 | 348 | 248 | 107 | 52 | 10 | 13 | 8 | 102 | 50 | 124 | 160 | 0.56 kN | 107.111.124.044.050.30 |
| 60 | 20 | 358 | 248 | 107 | 52 | 10 | 13 | 8 | 102 | 50 | 124 | 160 | 0.56 kN | 107.111.124.044.060.30 |
| 70 | 30 | 408 | 288 | 127 | 52 | 10 | 13 | 8 | 102 | 50 | 124 | 160 | 0.56 kN | 107.111.124.044.070.30 |
| 80 | 20 | 418 | 288 | 127 | 52 | 10 | 13 | 8 | 102 | 50 | 124 | 160 | 0.56 kN | 107.111.124.044.080.30 |
| 90 | 40 | 488 | 348 | 157 | 52 | 10 | 13 | 8 | 102 | 50 | 124 | 160 | 0.56 kN | 107.111.124.044.090.30 |
| 100 | 30 | 498 | 348 | 157 | 52 | 10 | 13 | 8 | 102 | 50 | 124 | 160 | 0.56 kN | 107.111.124.044.100.30 |
| 110 | 40 | 548 | 388 | 177 | 52 | 10 | 13 | 8 | 102 | 50 | 124 | 160 | 0.56 kN | 107.111.124.044.110.30 |

S = retract, WS = working stroke, *at 1 bar pressure

Nominal size 058

| S | WS | a | b | c | d | e | f | g | h | i | k | l | Force* | Order-number |
|-----|----|-----|-----|-----|----|----|----|---|-----|----|-----|-----|--------|------------------------|
| 50 | 30 | 348 | 248 | 107 | 70 | 10 | 13 | 8 | 140 | 70 | 164 | 190 | 1.0 kN | 107.111.124.058.050.30 |
| 60 | 20 | 358 | 248 | 107 | 70 | 10 | 13 | 8 | 140 | 70 | 164 | 190 | 1.0 kN | 107.111.124.058.060.30 |
| 70 | 30 | 408 | 288 | 127 | 70 | 10 | 13 | 8 | 140 | 70 | 164 | 190 | 1.0 kN | 107.111.124.058.070.30 |
| 80 | 20 | 418 | 288 | 127 | 70 | 10 | 13 | 8 | 140 | 70 | 164 | 190 | 1.0 kN | 107.111.124.058.080.30 |
| 90 | 40 | 488 | 348 | 157 | 70 | 10 | 13 | 8 | 140 | 70 | 164 | 190 | 1.0 kN | 107.111.124.058.090.30 |
| 100 | 30 | 498 | 348 | 157 | 70 | 10 | 13 | 8 | 140 | 70 | 164 | 190 | 1.0 kN | 107.111.124.058.100.30 |
| 110 | 40 | 548 | 388 | 177 | 70 | 10 | 13 | 8 | 140 | 70 | 164 | 190 | 1.0 kN | 107.111.124.058.110.30 |

S = retract, WS = working stroke, *at 1 bar pressure

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Cylinder-Duplex-2



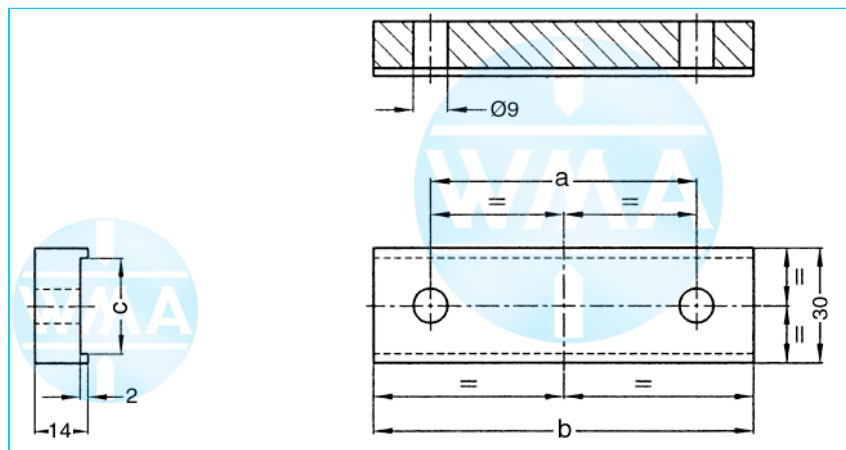
Welding cylinder

Duplex with retract and working stroke

Version: 2011-01

Holding plate for Duplex cylinder

For Cylinder piston diameter (Nominal size) 25,32, 34, 38, 44 and 58 mm

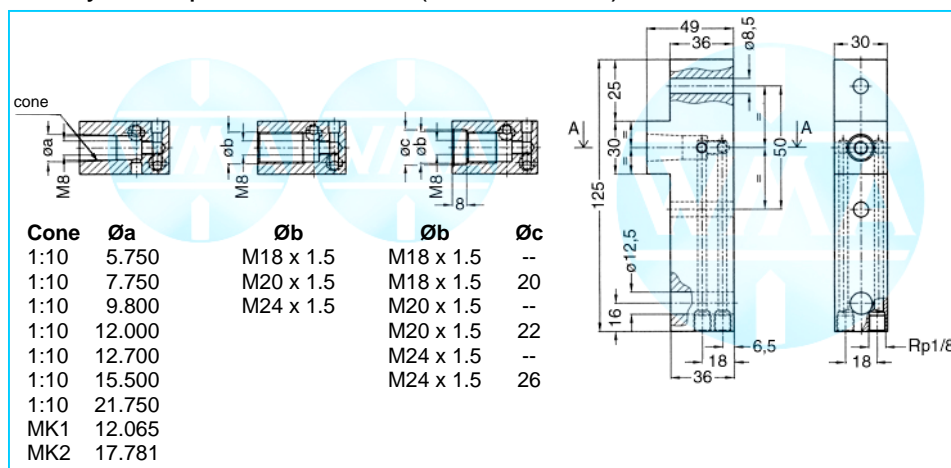


Cylinder piston diameter

| Cylinder piston diameter | a | b | c | Order-number |
|--------------------------|----|-----|----|--------------|
| 25, 32, 34 | 50 | 80 | 17 | |
| 38, 44 | 50 | 80 | 25 | |
| 58 | 70 | 100 | 25 | |

Electrode holder for Duplex cylinder

For Cylinder piston diameter (Nominal size) 25,32, 34, 38, 44 and 58 mm



| Cone | Øa | Øb | Øb | Øc |
|------|--------|-----------|-----------|----|
| 1:10 | 5.750 | M18 x 1.5 | M18 x 1.5 | -- |
| 1:10 | 7.750 | M20 x 1.5 | M18 x 1.5 | 20 |
| 1:10 | 9.800 | M24 x 1.5 | M20 x 1.5 | -- |
| 1:10 | 12.000 | | M20 x 1.5 | 22 |
| 1:10 | 12.700 | | M24 x 1.5 | -- |
| 1:10 | 15.500 | | M24 x 1.5 | 26 |
| 1:10 | 21.750 | | | |
| MK1 | 12.065 | | | |
| MK2 | 17.781 | | | |

Piston diameter

| Piston diameter | d | e | f |
|--------------------|-----|----|----|
| 25, 32, 34, 38, 44 | 125 | 25 | 50 |
| 58 | 154 | 35 | 70 |

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Cylinder-Duplex-3