



AVID F791N NAMUR SOLENOID VALVE

A robust, pilot operated solenoid valve for direct mounting to Keystone and PremiAir / MRP pneumatic actuators



FEATURES

- Compact design with standardized market proven NAMUR mounting interface.
- Electromagnetic indirectly controlled soft seal spool valve.
- ½ or ¾ way function selectable via interchangeable sealed adaptor plate.
- Suitable for double and single acting pneumatic actuators.
- ¾ way operation provides purge function to actuator spring chamber, ensuring aggressive environments are unable to enter the actuator.
- Corrosion resistive anodized aluminium body.
- Manual override with detent as standard.

GENERAL APPLICATIONS

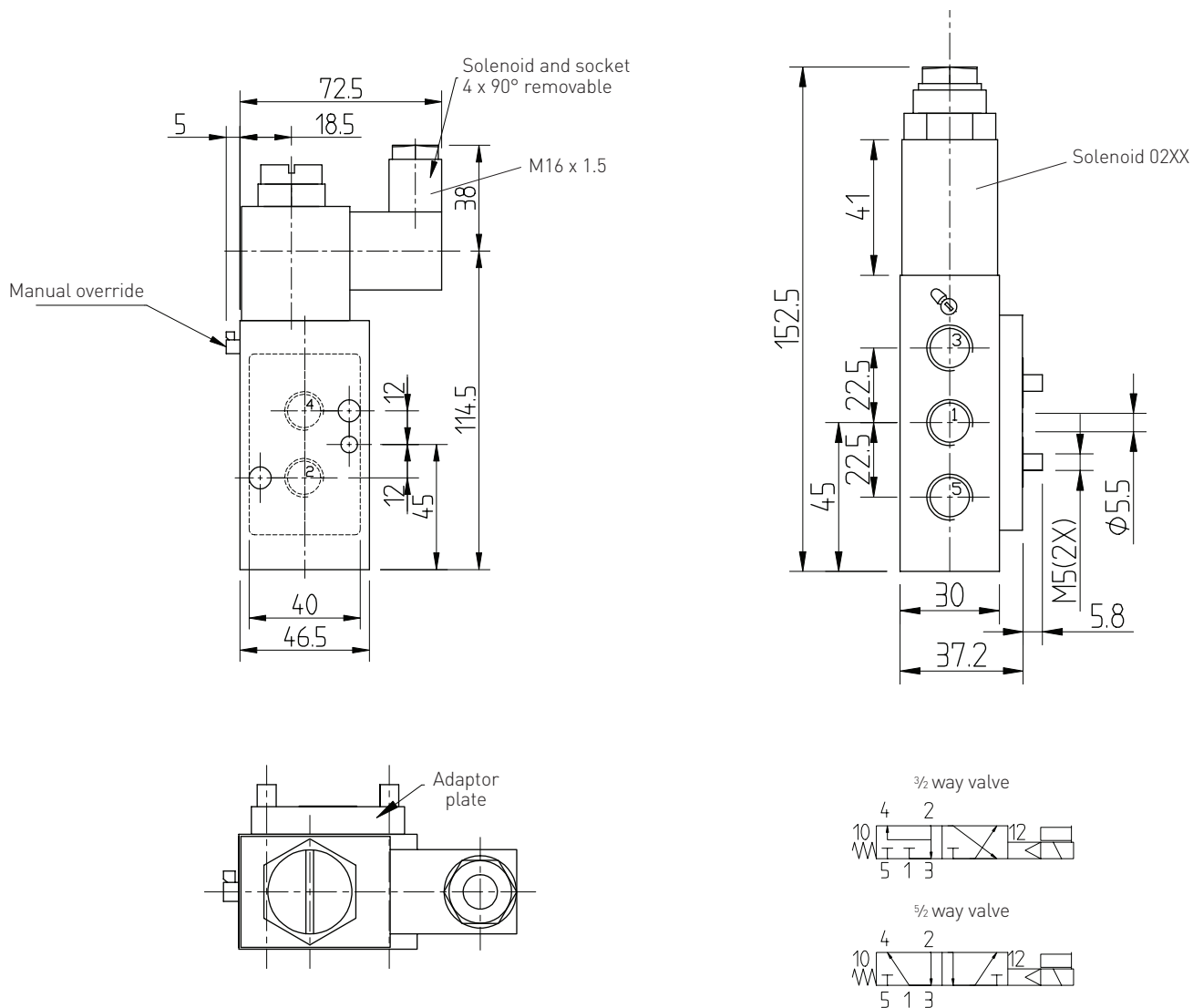
The F791N is a universal NAMUR solenoid valve to be used in combination with the Keystone F79 and Emerson PremiAir / MRP rack and pinion actuators. It is available in a range of standard and hazardous area classifications, which makes this product suitable for many applications i.e. Food and Beverage industry, Waste water, Process, and (Petro) chemical applications.

TECHNICAL DATA

| | |
|----------------------------|--|
| Material: | aluminium body, black anodized |
| Air connection: | G ¼ or ¼ - 18 NPT |
| Pressure range: | 1 - 10 bar or 2.5 - 8 bar / 14.5 - 145 psi or 36.3 - 116 psi |
| C _v : | 1200 or 1300 l/min |
| Ambient temperature range: | -15°C to +60°C / 5°F to +140°F |
| IP rating: | IP65 |
| Certifications: | ATEX Ex m, Ex me, Ex md, Ex ia |
| Standard coil voltage: | 24 V AC/DC, 110 V AC, 230 V AC (50/60 Hz) |
| Electrical connection: | DIN plug with/without flying lead or terminal strip |

AVID F791N NAMUR SOLENOID VALVE

DIMENSIONS - STANDARD WEATHERPROOF VERSION - IP65



SPECIFICATIONS - STANDARD WEATHERPROOF VERSION - IP65

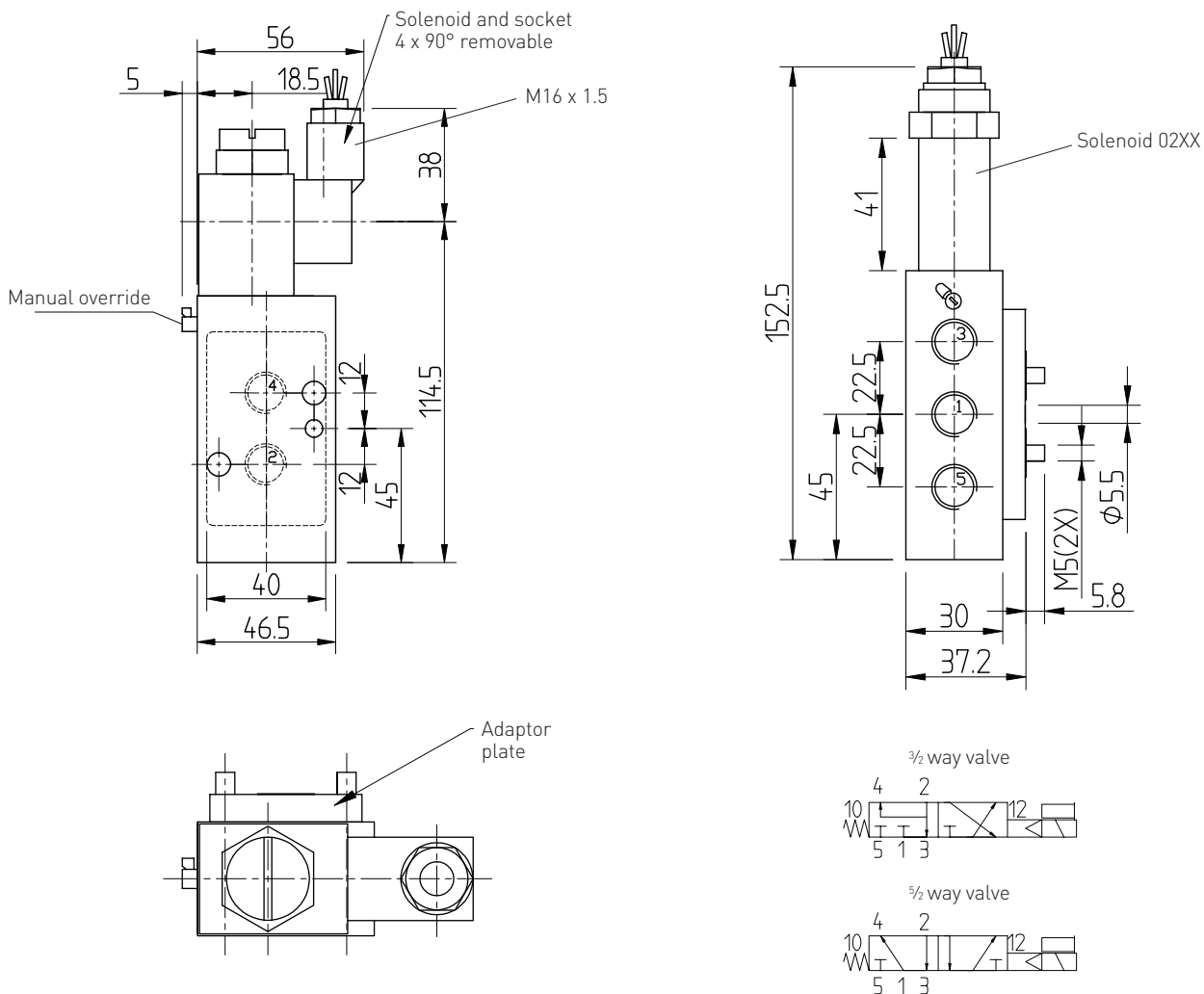
| | |
|----------------------------|--|
| Material: | Aluminium body, black anodized |
| Air connection: | Port 1, 3 and 5 A = G 1/4 or 1/4-18 NPT |
| Pressure range: | 2.5 bar to 8 bar / 36.3 psi to 116 psi |
| C _v : | Flow rate 1.300 l/min |
| Ambient temperature range: | -15°C to +50°C / 5°F to +122°F |
| Coil weatherproof: | IP65 |
| Standard coil voltage: | AC 24, 110, 230 (50 Hz) DC 24 |
| Coil rating: | Continuously |
| Electrical connection: | DIN plug with cable gland M16 x 1.5 (Form A) |
| Power consumption: | AC 4.3 VA DC 1.7 W |
| Coil type: | 3037 |
| Weight: | 0.54 kg |

NOTE

If valve is assembled to actuator, the adaptor plate needs to be adjusted in accordance to mode of actuator operation (1/2 for single acting, 1/2 for double acting). Valve separately shipped includes two interchangeable sealed adaptor plates.

AVID F791N NAMUR SOLENOID VALVE

DIMENSIONS - EXPLOSIONPROOF VERSION - ATEX EX M



SPECIFICATIONS - EXPLOSIONPROOF VERSION - ATEX EX M

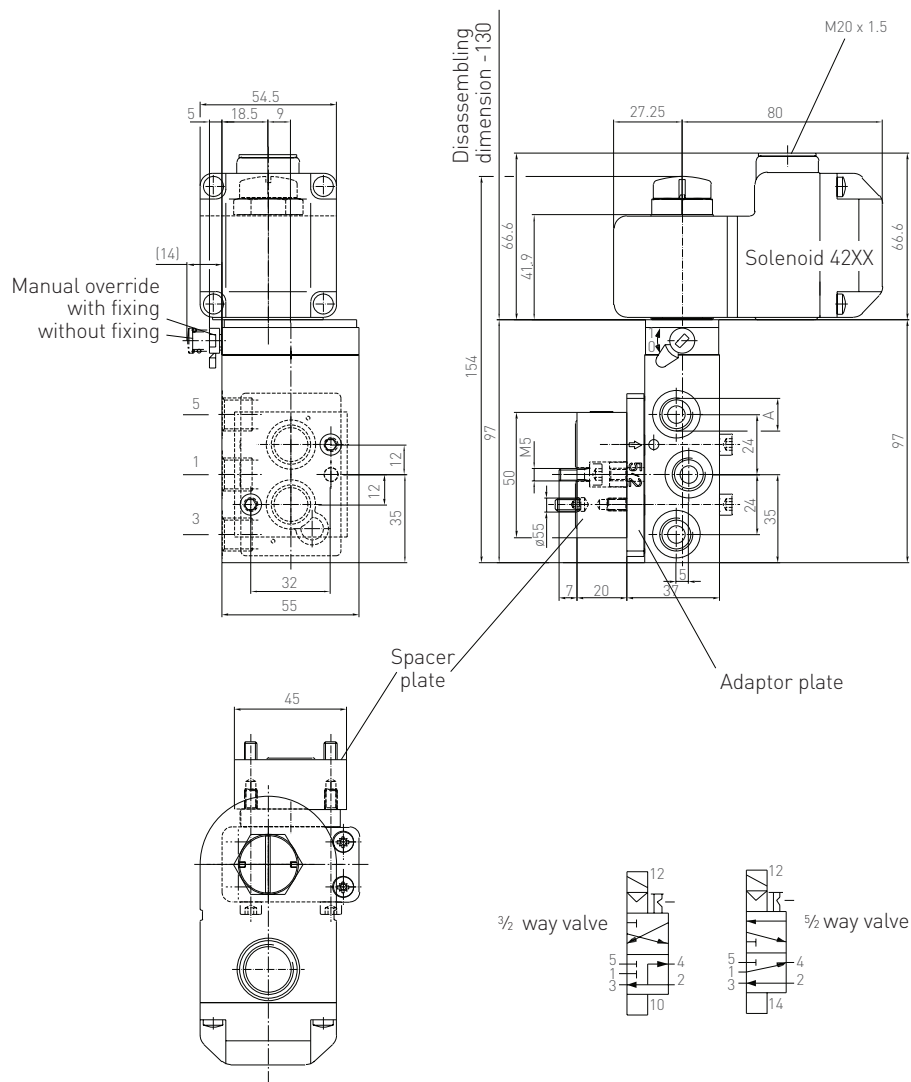
| | |
|----------------------------|--|
| Material: | Aluminium body, black anodized |
| Air connection: | Port 1, 3 and 5 A = G 1/4 or 1/4-18 NPT |
| Pressure range: | 2.5 bar to 8 bar / 36.3 psi to 116 psi |
| C _v : | Flow rate 1.300 l/min |
| Ambient temperature range: | -15°C to +50°C / 5°F to +122°F |
| Coil explosion proof: | ATEX II 2G Ex m II T5 Ex tD A21 IP65 T95°C |
| Standard coil voltage: | AC 24, 110, 230 (50 to 60 Hz) DC 24 |
| Coil rating: | Continuously |
| Electrical connection: | 3 m cable |
| Power consumption: | AC 2.1 VA DC 2.7 W |
| Coil type: | 3062/3063 |
| Weight: | 0.54 kg |

NOTE


If valve is assembled to actuator, the adaptor plate needs to be adjusted in accordance to mode of actuator operation (1/2 for single acting, 3/2 for double acting). Valve separately shipped includes two interchangeable sealed adaptor plates.

AVID F791N NAMUR SOLENOID VALVE

DIMENSIONS - EXPLOSIONPROOF VERSION - ATEX EX ME



SPECIFICATIONS - EXPLOSIONPROOF VERSION - ATEX EX ME

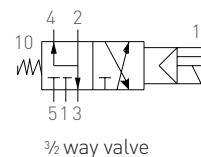
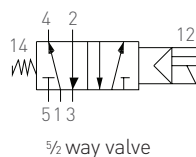
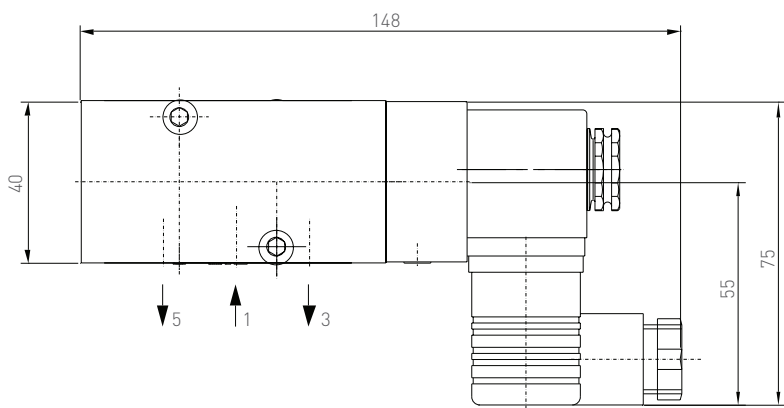
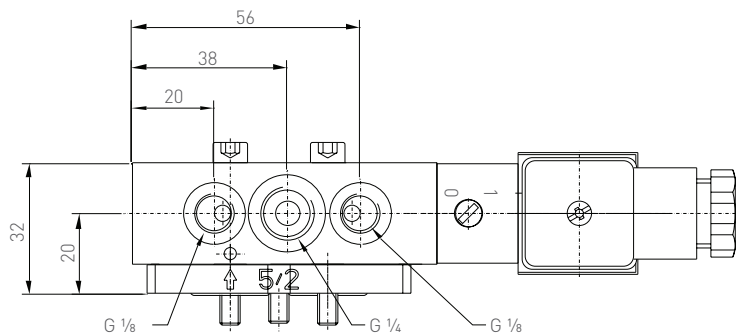
| | |
|----------------------------|---|
| Material: | Aluminium body, black anodized |
| Air connection: | Port 1, 3 and 5 A = G 1/4 or 1/4-18 NPT |
| Pressure range: | 1 bar to 10 bar / 14.5 psi to 145 psi |
| C _v : | Flow rate 1.200 l/min |
| Ambient temperature range: | -10°C to +60°C / 14°F to +140°F |
| Coil explosion proof: | ATEX  II 2G Ex me II T4/T5/T6 (hazard zone 1 and 2), II 2D IP66 T130°C (hazard zone 21 and 22) IECEx Ex e mb IIC T4..T6 Gb Ex tb IIC T130°C Db IP66 |
| Standard coil voltage: | AC 24, 110, 230 (40 to 60 Hz) DC 24 |
| Coil rating: | Continuously |
| Electrical connection: | Screwed terminal box with cable entry M20 x 1.5 |
| Power consumption: | AC 1.3 VA / DC 0.8 W |
| Coil type: | 4200/4201 |
| Weight: | 1.05 kg |

NOTE

If valve is assembled to actuator, the adaptor plate needs to be adjusted in accordance to mode of actuator operation (3/2 for single acting, 5/2 for double acting). Valve separately shipped includes two interchangeable sealed adaptor plates.

AVID F791N NAMUR SOLENOID VALVE

DIMENSIONS - INTRINSICALLY SAFE VERSION - ATEX EX IA



SPECIFICATIONS - INTRINSICALLY SAFE VERSION - ATEX EX IA

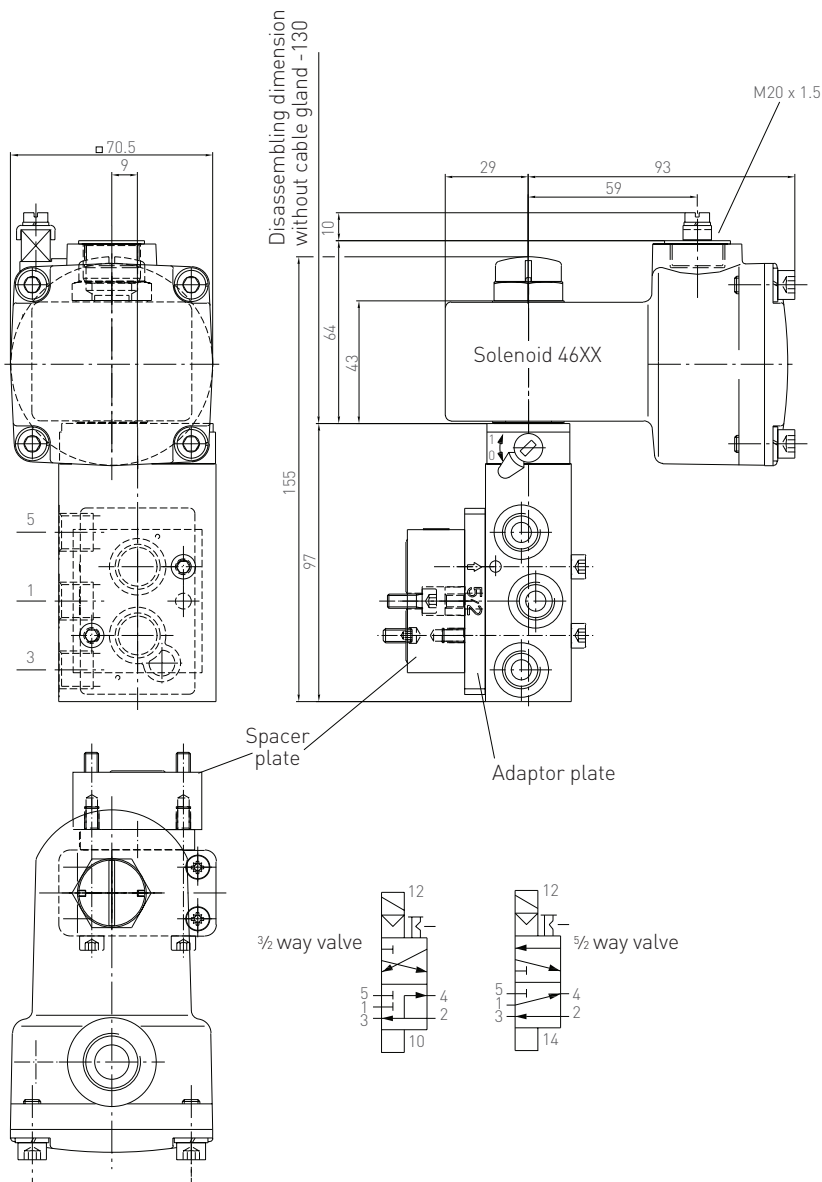
| | |
|-----------------------------|---|
| Material: | Aluminium body, black anodized |
| Air connection: | Port 1 air supply, G 1/4 or 1/4 -18 NPT Port 3 and 5 exhaust, G 1/8 or 1/8 -27 NPT |
| Pressure range: | 1 bar to 10 bar / 14.5 psi to 145 psi |
| C _v : | Flow rate 750 l/min |
| Ambient temperature range: | -15°C to +50°C / 5°F to +122°F |
| Coil intrinsically safe: | ATEX Ex II 2G Ex ia IIC T4/T6 (hazard zone 1 and 2) |
| Standard coil voltage: | DC 24 |
| Coil rating: | Continuously |
| Electrical connection: | DIN plug with cable gland M16 x 1.5 (Form A) |
| Required switching current: | 37 mA |
| Coil type: | 3039 |
| Weight: | 1.05 kg |

NOTE


If valve is assembled to actuator, the adaptor plate needs to be adjusted in accordance to mode of actuator operation (1/2 for single acting, 1/2 for double acting). Valve separately shipped includes two interchangeable sealed adaptor plates.

AVID F791N NAMUR SOLENOID VALVE

DIMENSIONS - EXPLOSIONPROOF VERSION - ATEX EX MD



SPECIFICATIONS - EXPLOSIONPROOF VERSION - ATEX EX MD

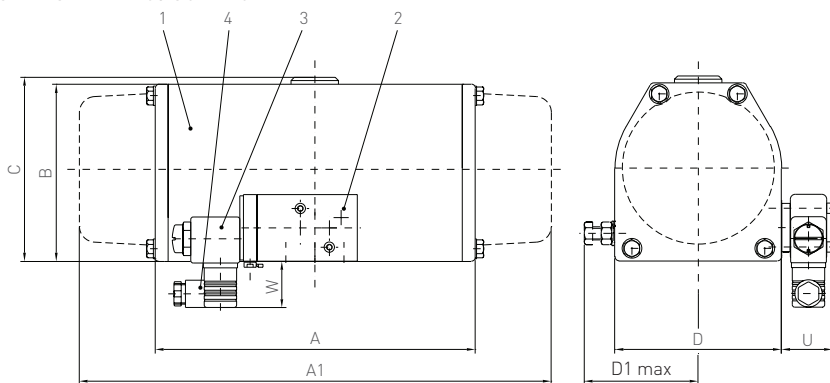
| | |
|----------------------------|---|
| Material: | Aluminium body, black anodized |
| Air connection: | Port 1, 3 and 5 = G 1/4 or 1/4 - 18 NPT |
| Pressure range: | 1 bar to 10 bar / 14.5 psi to 145 psi |
| C _v : | Flow rate 1.200 l/min |
| Ambient temperature range: | -10°C to +60°C / 14°F to +140°F |
| Coil explosion proof: | ATEX  II 2G Ex md IIC T4/T5/T6 (hazard zone 1 and 2), II 2D IP66 T130°C (hazard zone 21 and 22) IECEX Ex d mb IIC T4/T5/T6 Gb Ex tb IIIC T130°C/T95°C/T80°C |
| Standard coil voltage: | AC 24, 110, 230 (40 to 60 Hz) DC 24 |
| Coil rating: | Continuously |
| Electrical connection: | Screwed terminal box with cable entry M20 x 1.5 |
| Power consumption: | AC 1.3 VA / DC 0.8 W |
| Coil type: | 4602/4603 |
| Weight: | 1.05 kg |

NOTE

If valve is assembled to actuator, the adaptor plate needs to be adjusted in accordance to mode of actuator operation (1/2 for single acting, 1/2 for double acting). Valve separately shipped includes two interchangeable sealed adaptor plates.

AVID F791N NAMUR SOLENOID VALVE

79 SERIES WITH IP65 SOLENOID VALVE



NOTE

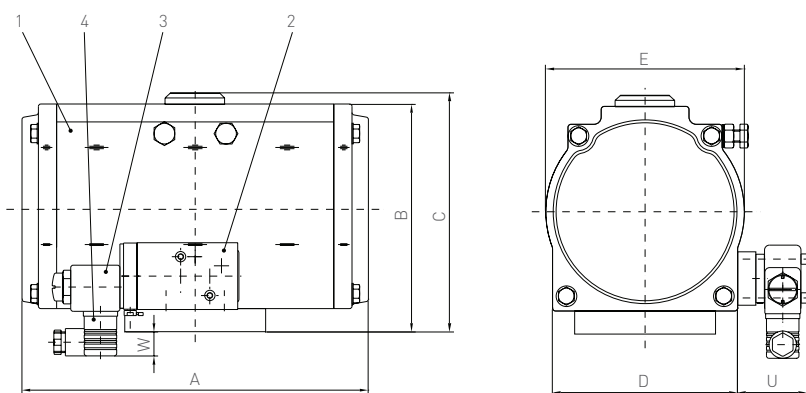
D1 max for actuators 065, 090 and 180 only.

065 : 137 mm

090 : 137 mm

180 : 165 mm

PREMAIR WITH IP65 SOLENOID VALVE



DIMENSIONS (mm) Keystone 79E/U

| Actuator | A | A1 | B | C | D | U | W |
|-----------|-----|-----|-----|-----|-----|----|----|
| 79E/U-002 | 117 | 186 | 81 | 90 | 80 | 42 | 37 |
| 79E/U-003 | 140 | 216 | 81 | 90 | 80 | 42 | 37 |
| 79E/U-006 | 167 | 257 | 103 | 112 | 93 | 42 | 41 |
| 79E/U-012 | 181 | 282 | 127 | 136 | 112 | 42 | 39 |
| 79E/U-024 | 233 | 351 | 150 | 159 | 136 | 42 | 32 |
| 79E/U-036 | 273 | 422 | 175 | 184 | 152 | 42 | 32 |
| 79E/U-065 | 325 | 500 | 217 | 226 | 203 | 42 | 27 |
| 79E/U-090 | 409 | 584 | 217 | 226 | 203 | 42 | 27 |
| 79E/U-180 | 481 | 694 | 268 | 227 | 250 | 42 | 37 |

PARTS LIST

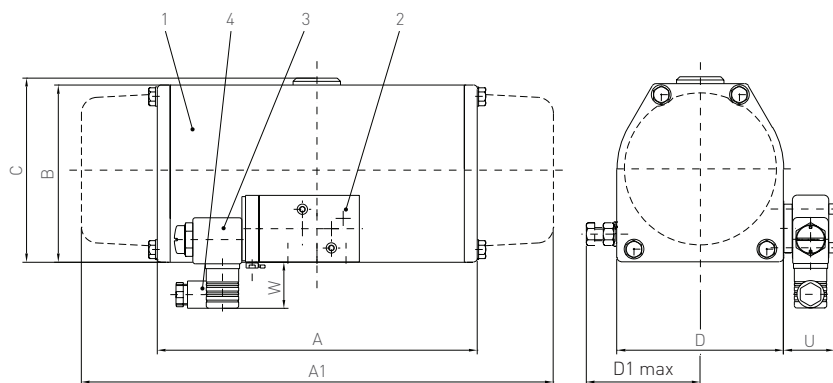
| Part number | Description |
|-------------|---------------------|
| 1 | Actuator |
| 2 | Solenoid valve body |
| 3 | Coil |
| 4 | Plug connector |

DIMENSIONS (mm) PREMIAIR / MRP

| Actuator size | A | B | C | D | E | U | W |
|---------------|-----------|-------|-----|-------|-------|----|----|
| 002 | 155.8 | 83.4 | 93 | 73.0 | 73.0 | 58 | 33 |
| 004 | 172 | 93.5 | 103 | 77.0 | 77.0 | 58 | 32 |
| 009 | 194.75 | 122.0 | 132 | 106.0 | 106.0 | 58 | 30 |
| 014 | 206 | 138.0 | 148 | 116.5 | 116.5 | 58 | 30 |
| 025 | 242 | 163.5 | 173 | 139.0 | 143.5 | 58 | 25 |
| 037 | 285 | 184.5 | 194 | 152.4 | 163.5 | 58 | 21 |
| 045 | 333.5 | 200.0 | 210 | 165.0 | 174.6 | 58 | 11 |
| 070 | 394 | 230.0 | 240 | 196.2 | 205.0 | 58 | 2 |
| 088 | 417.5 | 254.0 | 264 | 216.0 | 221.5 | 58 | |
| 180 | 481 [694] | 268.0 | 277 | 250.0 | | 42 | 37 |

AVID F791N NAMUR SOLENOID VALVE

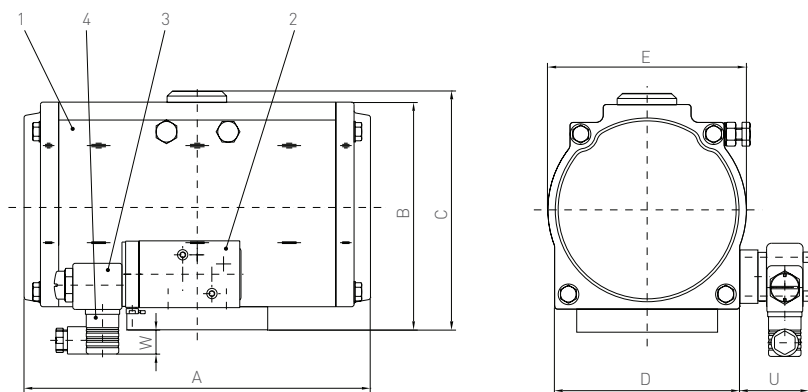
79 SERIES WITH EX M SOLENOID VALVE



NOTE

D1 max for actuators 065, 090 and 180 only.
 065 : 137 mm
 090 : 137 mm
 180 : 165 mm

PREMAIR WITH EX M SOLENOID VALVE



DIMENSIONS (mm) Keystone 79E/U

| Actuator | A | A1 | B | C | D | U | W |
|-----------|-----|-----|-----|-----|-----|----|----|
| 79E/U-002 | 117 | 186 | 81 | 90 | 80 | 42 | 27 |
| 79E/U-003 | 140 | 216 | 81 | 90 | 80 | 42 | 27 |
| 79E/U-006 | 167 | 257 | 103 | 112 | 93 | 42 | 31 |
| 79E/U-012 | 181 | 282 | 127 | 136 | 112 | 42 | 29 |
| 79E/U-024 | 233 | 351 | 150 | 159 | 136 | 42 | 22 |
| 79E/U-036 | 273 | 422 | 175 | 184 | 152 | 42 | 22 |
| 79E/U-065 | 325 | 500 | 217 | 226 | 203 | 42 | 17 |
| 79E/U-090 | 409 | 584 | 217 | 226 | 203 | 42 | 17 |
| 79E/U-180 | 481 | 694 | 268 | 227 | 250 | 42 | 27 |

PARTS LIST

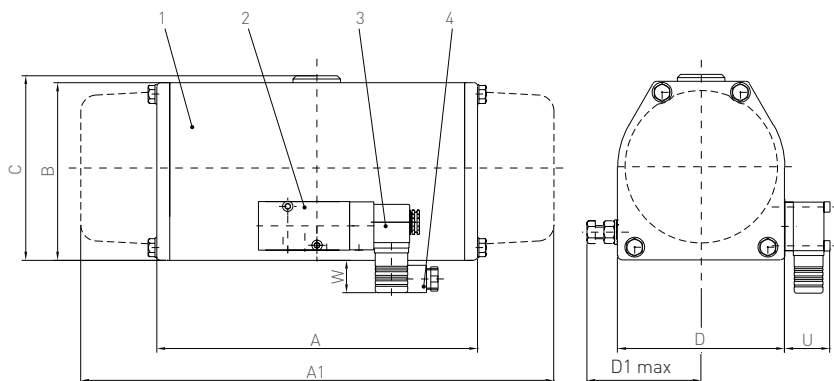
| Part number | Description |
|-------------|---------------------|
| 1 | Actuator |
| 2 | Solenoid valve body |
| 3 | Coil |
| 4 | Plug connector |

DIMENSIONS (mm) PREMAIR / MRP

| Actuator size | A | B | C | D | E | U | W |
|---------------|-----------|-------|-----|-------|-------|----|----|
| 002 | 155.8 | 83.4 | 93 | 73.0 | 73.0 | 58 | 23 |
| 004 | 172 | 93.5 | 103 | 77.0 | 77.0 | 58 | 22 |
| 009 | 194.75 | 122.0 | 132 | 106.0 | 106.0 | 58 | 20 |
| 014 | 206 | 138.0 | 148 | 116.5 | 116.5 | 58 | 20 |
| 025 | 242 | 163.5 | 173 | 139.0 | 143.5 | 58 | 15 |
| 037 | 285 | 184.5 | 194 | 152.4 | 163.5 | 58 | 11 |
| 045 | 333.5 | 200.0 | 210 | 165.0 | 174.6 | 58 | 1 |
| 070 | 394 | 230.0 | 240 | 196.2 | 205.0 | 58 | |
| 088 | 417.5 | 254.0 | 264 | 216.0 | 221.5 | 58 | |
| 180 | 481 [694] | 268.0 | 277 | 250.0 | | 42 | 27 |

AVID F791N NAMUR SOLENOID VALVE

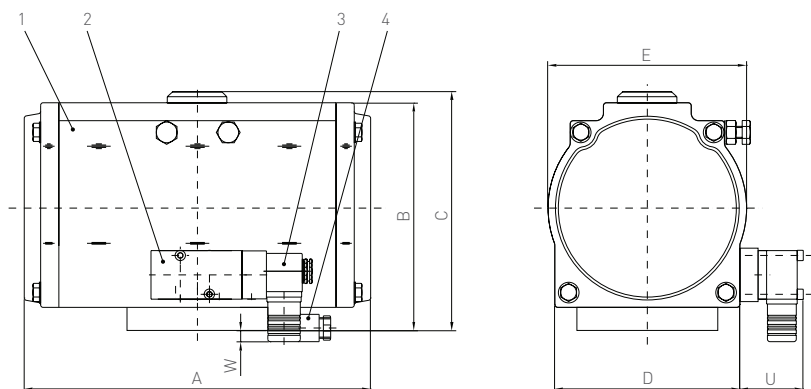
79 SERIES WITH EX IA SOLENOID VALVE



NOTE

D1 max for actuators 065, 090 and 180 only.
 065 : 137 mm
 090 : 137 mm
 180 : 165 mm

PREMIAIR WITH EX IA SOLENOID VALVE



DIMENSIONS (mm) Keystone 79E/U

| Actuator | A | A1 | B | C | D | U | W |
|-----------|-----|-----|-----|-----|-----|------|------|
| 79E/U-002 | 117 | 186 | 81 | 90 | 80 | 37.5 | 25 |
| 79E/U-003 | 140 | 216 | 81 | 90 | 80 | 37.5 | 25 |
| 79E/U-006 | 167 | 257 | 103 | 112 | 93 | 37.5 | 29.5 |
| 79E/U-012 | 181 | 282 | 127 | 136 | 112 | 37.5 | 27 |
| 79E/U-024 | 233 | 351 | 150 | 159 | 136 | 37.5 | 20 |
| 79E/U-036 | 273 | 422 | 175 | 184 | 152 | 37.5 | 20 |
| 79E/U-065 | 325 | 500 | 217 | 226 | 203 | 37.5 | 15 |
| 79E/U-090 | 409 | 584 | 217 | 226 | 203 | 37.5 | 15 |
| 79E/U-180 | 481 | 694 | 268 | 227 | 250 | 37.5 | |

PARTS LIST

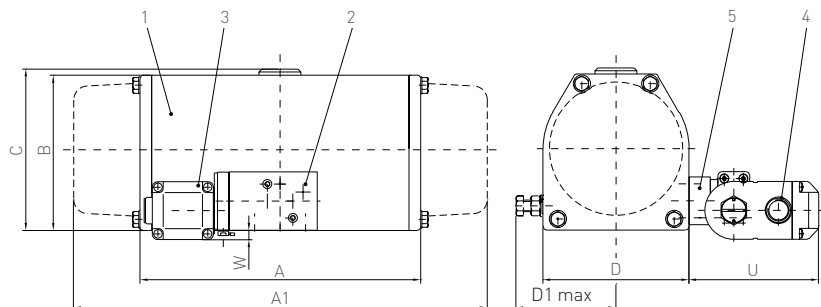
| Part number | Description |
|-------------|---------------------|
| 1 | Actuator |
| 2 | Solenoid valve body |
| 3 | Coil |
| 4 | Plug connector |

DIMENSIONS (mm) PREMIAIR / MRP

| Actuator size | A | B | C | D | E | U | W |
|---------------|-----------|-------|-----|-------|-------|------|------|
| 002 | 155.8 | 83.4 | 93 | 73.0 | 73.0 | 53.5 | 21.0 |
| 004 | 172 | 93.5 | 103 | 77.0 | 77.0 | 53.5 | 20.0 |
| 009 | 194.75 | 122.0 | 132 | 106.0 | 106.0 | 53.5 | 18.5 |
| 014 | 206 | 138.0 | 148 | 116.5 | 116.5 | 53.5 | 18.0 |
| 025 | 242 | 163.5 | 173 | 139.0 | 143.5 | 53.5 | 13.0 |
| 037 | 285 | 184.5 | 194 | 152.4 | 163.5 | 53.5 | 9.5 |
| 045 | 333.5 | 200.0 | 210 | 165.0 | 174.6 | 53.5 | 1.5 |
| 070 | 394 | 230.0 | 240 | 196.2 | 205.0 | 53.5 | |
| 088 | 417.5 | 254.0 | 264 | 216.0 | 221.5 | 53.5 | |
| 180 | 481 [694] | 268.0 | 277 | 250.0 | | 37.5 | |

AVID F791N NAMUR SOLENOID VALVE

79 SERIES WITH EX ME SOLENOID VALVE AND SPACER PLATE



PARTS LIST

| Part number | Description |
|-------------|----------------------|
| 1 | Actuator |
| 2 | Solenoid valve body |
| 3 | Coil |
| 4 | Cable entry |
| 5 | Spacer plate (extra) |

NOTE

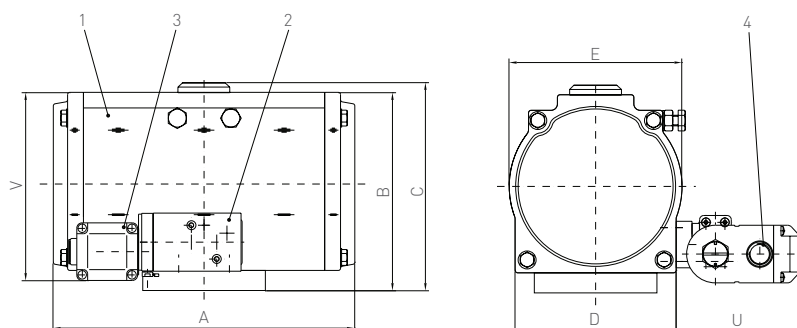
D1 max for actuators 065, 090 and 180 only.

065 : 137 mm

090 : 137 mm

180 : 165 mm

PREMIAIR WITH EX ME SOLENOID VALVE



PARTS LIST

| Part number | Description |
|-------------|---------------------|
| 1 | Actuator |
| 2 | Solenoid valve body |
| 3 | Coil |
| 4 | Cable entry |

DIMENSIONS (mm) Keystone 79E/U

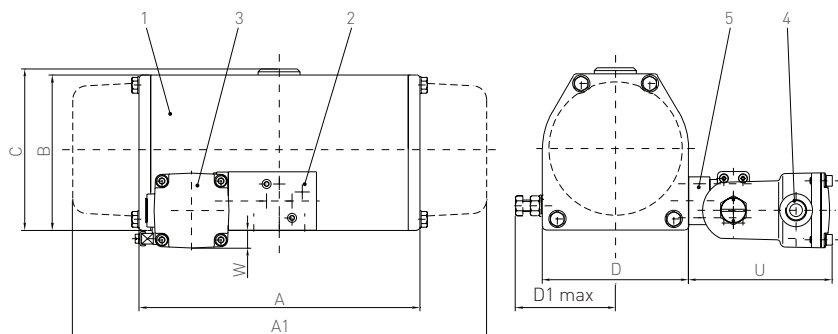
| Actuator | A | A1 | B | C | D | U | W |
|-----------|-----|-----|-----|-----|-----|-----|------|
| 79E/U-002 | 117 | 186 | 81 | 90 | 80 | 122 | 6.5 |
| 79E/U-003 | 140 | 216 | 81 | 90 | 80 | 122 | 6.5 |
| 79E/U-006 | 167 | 257 | 103 | 112 | 93 | 122 | 11.0 |
| 79E/U-012 | 181 | 282 | 127 | 136 | 112 | 122 | 8.5 |
| 79E/U-024 | 233 | 351 | 150 | 159 | 136 | 122 | 1.5 |
| 79E/U-036 | 273 | 422 | 175 | 184 | 152 | 122 | 1.5 |
| 79E/U-065 | 325 | 500 | 217 | 226 | 203 | 122 | |
| 79E/U-090 | 409 | 584 | 217 | 226 | 203 | 122 | |
| 79E/U-180 | 481 | 694 | 268 | 227 | 250 | 122 | 45.0 |

DIMENSIONS (mm) PREMIAIR / MRP

| Actuator size | A | B | C | D | E | U | V |
|---------------|-----------|-------|-----|-------|-------|-----|-------|
| 002 | 155.8 | 83.4 | 93 | 73.0 | 73.0 | 118 | 86.0 |
| 004 | 172 | 93.5 | 103 | 77.0 | 77.0 | 118 | 94.5 |
| 009 | 194.75 | 122.0 | 132 | 106.0 | 106.0 | 118 | 122.0 |
| 014 | 206 | 138.0 | 148 | 116.5 | 116.5 | 118 | 137.5 |
| 025 | 242 | 163.5 | 173 | 139.0 | 143.5 | 118 | 158.0 |
| 037 | 285 | 184.5 | 194 | 152.4 | 163.5 | 118 | 175.0 |
| 045 | 333.5 | 200.0 | 210 | 165.0 | 174.6 | 118 | 183.0 |
| 070 | 394 | 230.0 | 240 | 196.2 | 205.0 | 118 | 202.0 |
| 088 | 417.5 | 254.0 | 264 | 216.0 | 221.5 | 118 | 218.0 |
| 180 | 481 [694] | 268.0 | 277 | 250.0 | | 122 | 313.0 |

AVID F791N NAMUR SOLENOID VALVE

79 SERIES WITH EX MD SOLENOID VALVE AND SPACER PLATE



PARTS LIST

| Part number | Description |
|-------------|----------------------|
| 1 | Actuator |
| 2 | Solenoid valve body |
| 3 | Coil |
| 4 | Cable entry |
| 5 | Spacer plate (extra) |

NOTE

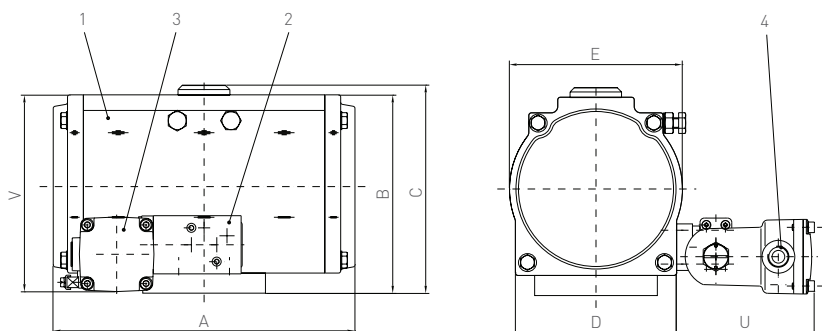
D1 max for actuators 065, 090 and 180 only.

065 : 137 mm

090 : 137 mm

180 : 165 mm

PREMIAIR WITH EX MD SOLENOID



PARTS LIST

| Part number | Description |
|-------------|---------------------|
| 1 | Actuator |
| 2 | Solenoid valve body |
| 3 | Coil |
| 4 | Cable entry |

DIMENSIONS (mm) Keystone 79E/U

| Actuator | A | A1 | B | C | D | U | W |
|-----------|-----|-----|-----|-----|-----|-----|------|
| 79E/U-002 | 117 | 186 | 81 | 90 | 80 | 135 | 14.5 |
| 79E/U-003 | 140 | 216 | 81 | 90 | 80 | 135 | 14.5 |
| 79E/U-006 | 167 | 257 | 103 | 112 | 93 | 135 | 19.0 |
| 79E/U-012 | 181 | 282 | 127 | 136 | 112 | 135 | 16.5 |
| 79E/U-024 | 233 | 351 | 150 | 159 | 136 | 135 | 9.5 |
| 79E/U-036 | 273 | 422 | 175 | 184 | 152 | 135 | 9.5 |
| 79E/U-065 | 325 | 500 | 217 | 226 | 203 | 135 | 4.0 |
| 79E/U-090 | 409 | 584 | 217 | 226 | 203 | 135 | 4.0 |
| 79E/U-180 | 481 | 694 | 268 | 227 | 250 | 135 | 45.0 |

DIMENSIONS (mm) PREMIAIR / MRP

| Actuator size | A | B | C | D | E | U | V |
|---------------|-----------|-------|-----|-------|-------|-----|-------|
| 002 | 155.8 | 83.4 | 93 | 73.0 | 73.0 | 131 | 94.0 |
| 004 | 172 | 93.5 | 103 | 77.0 | 77.0 | 131 | 102.5 |
| 009 | 194.75 | 122.0 | 132 | 106.0 | 106.0 | 131 | 130.0 |
| 014 | 206 | 138.0 | 148 | 116.5 | 116.5 | 131 | 145.5 |
| 025 | 242 | 163.5 | 173 | 139.0 | 143.5 | 131 | 166.0 |
| 037 | 285 | 184.5 | 194 | 152.4 | 163.5 | 131 | 183.0 |
| 045 | 333.5 | 200.0 | 210 | 165.0 | 174.6 | 131 | 191.0 |
| 070 | 394 | 230.0 | 240 | 196.2 | 205.0 | 131 | 209.5 |
| 088 | 417.5 | 254.0 | 264 | 216.0 | 221.5 | 131 | 226.0 |
| 180 | 481 [694] | 268.0 | 277 | 250.0 | | 135 | 319.0 |

