

### Features

1. Direct acting.
2. Quick response.
3. Timer for setting on/off time as optional accessory.
4. Ex-proof coil is available, please refer to page 5-9, 5-10.
5. Coil nut is available, please refer to page 5-1, 5-3.



### How to order

| Brass Direct acting | Diaphragm  | Port size | Pressure                                                                        | Thread   | Voltage    | Led            | Ex-Proof coil                                      |
|---------------------|------------|-----------|---------------------------------------------------------------------------------|----------|------------|----------------|----------------------------------------------------|
|                     | Blank: NBR | 01: 1/8"  | Blank: Standard                                                                 | Blank: G | S1: 110VAC | Blank: W/O LED | Blank: DIN                                         |
|                     | V: VITON   | 02: 1/4"  | 1: High pressure                                                                | N: NPT   | S2: 220VAC | L: W/I LED     | E1: EX-proof 22mm width                            |
|                     | E: EPDM    | 03: 3/8"  | 2: Medium pressure                                                              | R: Rc    | S6: 24VAC  |                | E2: EX-proof 30mm width                            |
|                     | H: HNBR    |           | *High pressure & Medium pressure are only available for PU220AR-01 & PU220AR-02 |          | S7: 12VDC  |                | E3: EX-proof CSA standard                          |
|                     |            |           |                                                                                 |          | S9: 24VDC  |                | E4: EX-proof 36mm width                            |
|                     |            |           |                                                                                 |          |            |                | PU220AR-03 is only available for E4 ex-proof coil. |

### Specifications

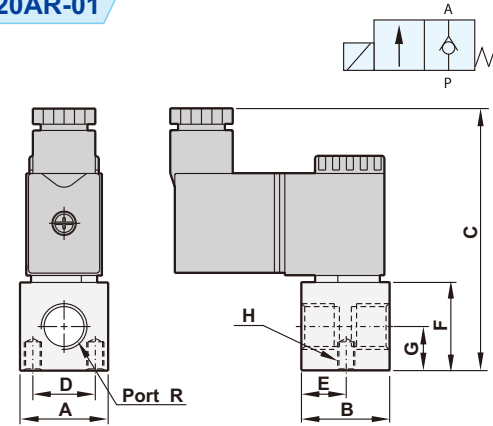
| Model                       | PU220AR-01                                           | PU220AR-011             | PU220AR-012             | PU220AR-02               | PU220AR-021             | PU220AR-022             | PU220AR-03                                  |
|-----------------------------|------------------------------------------------------|-------------------------|-------------------------|--------------------------|-------------------------|-------------------------|---------------------------------------------|
| Port size                   | 1/8"                                                 |                         |                         | 1/4"                     |                         |                         | 3/8"                                        |
| Fluid                       | Compressed air (light oil, water)                    |                         |                         |                          |                         |                         |                                             |
| Orifice                     | 1.5mm                                                | 0.8mm                   | 1.2mm                   | 2.3mm                    | 1.2mm                   | 1.5mm                   | 8.0mm                                       |
| Effective area              | 1.8mm <sup>2</sup>                                   |                         |                         | 3.3mm <sup>2</sup>       |                         |                         | 20.64mm <sup>2</sup>                        |
| Acting                      | Direct acting                                        |                         |                         |                          |                         |                         | Assisted lift                               |
| Construction                | Gasket                                               |                         |                         |                          |                         |                         | Diaphragm                                   |
| Operating pressure range AC | 0~8.5 kgf/cm <sup>2</sup>                            | 0~20kgf/cm <sup>2</sup> | 0~16kgf/cm <sup>2</sup> | 0~8.5kgf/cm <sup>2</sup> | 0~20kgf/cm <sup>2</sup> | 0~16kgf/cm <sup>2</sup> | 0~8.5kgf/cm <sup>2</sup>                    |
| Operating pressure range DC | 0~7 kgf/cm <sup>2</sup>                              | 0~13kgf/cm <sup>2</sup> | 0~10kgf/cm <sup>2</sup> | 0~7kgf/cm <sup>2</sup>   | 0~13kgf/cm <sup>2</sup> | 0~10kgf/cm <sup>2</sup> | 0~7kgf/cm <sup>2</sup>                      |
| Proof pressure              | 10 kgf/cm <sup>2</sup>                               |                         |                         |                          |                         |                         |                                             |
| Body material               | Forged Brass                                         |                         |                         |                          |                         |                         |                                             |
| Fluid temperature           | -10℃ ~ 90℃                                           |                         |                         |                          |                         |                         |                                             |
| Ambient temperature         | -10℃ ~ 60℃                                           |                         |                         |                          |                         |                         |                                             |
| Installation                | Any direction (Horizontal is recommended)            |                         |                         |                          |                         |                         |                                             |
| Duty cycle                  | 100% ED                                              |                         |                         |                          |                         |                         |                                             |
| Coil type                   | DIN                                                  |                         |                         |                          |                         |                         |                                             |
| Protection class            | IP65 (DIN 40 050)                                    |                         |                         |                          |                         |                         |                                             |
| Insulation class            | F                                                    |                         |                         |                          |                         |                         |                                             |
| Voltage tolerance           | ±10%                                                 |                         |                         |                          |                         |                         |                                             |
| Standard voltage            | 220VAC, 110VAC, 24VDC, the other voltage is optional |                         |                         |                          |                         |                         |                                             |
| Power consumption           | AC: 6.0VA, DC: 4.8W                                  |                         |                         |                          |                         |                         | AC110V:17.6VA,<br>AC220V:18.1VA,<br>DC: 15W |
| Net weight                  | 175g                                                 |                         |                         | 255g                     |                         |                         | 510g                                        |

### Seal material selection guide

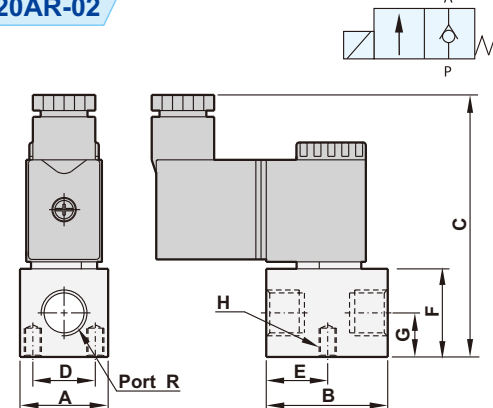
| Seal  | Temperature range | Suitable fluid                                       | Unsuitable fluid                                                |
|-------|-------------------|------------------------------------------------------|-----------------------------------------------------------------|
| NBR   | -15℃ ~ 80℃        | Air, Water, Neutral gases, Mineral oil               | Fuel oil, Gasoline and Hi-test gasoline, Diesel fuel            |
| HNBR  | -40℃ ~ 150℃       | Air, Water, Gear oil, Engine oil                     | Pharmaceutical liquid, Gasoline and Hi-test gasoline, Light oil |
| VITON | -10℃ ~ 180℃       | Fuel oil, Gasoline and Hi-test gasoline, Diesel fuel | Hot water, Steam, Brake oil (ATE Blue)                          |
| EPDM  | -5℃ ~ 130℃        | Hot water, Detergent liquid                          | Mineral oil, Gasoline                                           |

### Dimensions

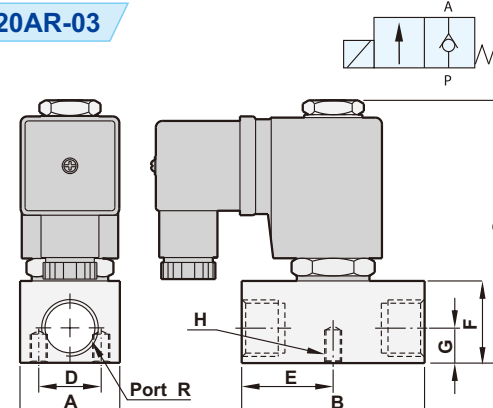
#### PU220AR-01



#### PU220AR-02

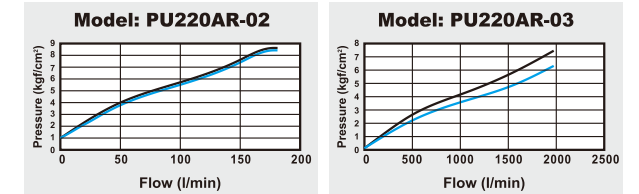


#### PU220AR-03



| Model | PU220AR-01   | PU220AR-02   | PU220AR-03   |
|-------|--------------|--------------|--------------|
| R     | 1/8"         | 1/4"         | 3/8"         |
| A     | 22           | 25.4         | 30           |
| B     | 22           | 35           | 55           |
| C     | 72           | 75           | 79           |
| D     | 15           | 18           | 18           |
| E     | 11           | 17.5         | 27.5         |
| F     | 22           | 25.4         | 25           |
| G     | 7.5          | 12.7         | 11           |
| H     | M4xP0.7xL6.5 | M5xP0.8xL7.0 | M5xP0.8xL7.0 |

### Flow chart



### Explosion

