

# Saunders A type diaphragm valves FLANGED EN558-1 series 1 (ex DIN3202 series FI - long body) Natural rubber or EPM membrane SG Iron body



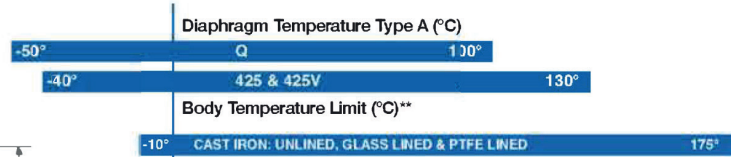
## Saunders A Type Diaphragm Valves

### Diaphragm Materials of Construction

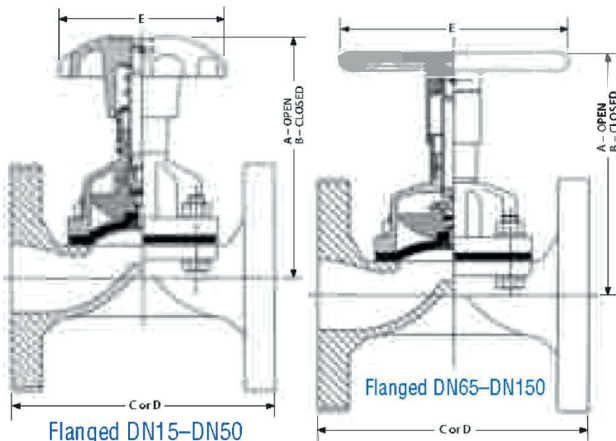
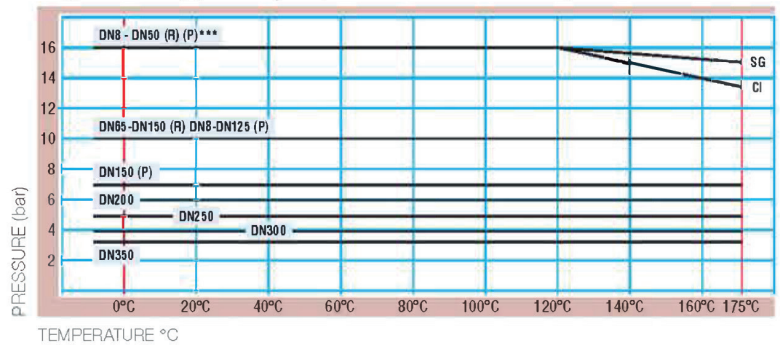
| Grade | Elastomer type  | General service and approvals  |
|-------|---|--|
| Q     | Natural rubber polyisoprene/SBR, sulphur cured, black reinforced  | Salts in water, dilute acids and alkalis, abrasives  |
| 425   | Ethylene propylene (EPM) organic peroxide cured, black reinforced | Salts in water, acids and alkalis, ozone, intermittent steam, drinking water, FDA, USP, WRAS |

### Diaphragm Performance

#### Temperature and Pressure Relationship



A Type Valve Body (Cast Iron) Temperature/Pressure Relationship



|           | Valve Diameter (DN) |    |      |      |      |      |      |      |      |      |      |      |      |  |  |  |
|-----------|---------------------|----|------|------|------|------|------|------|------|------|------|------|------|--|--|--|
|           | 8                   | 10 | 15   | 20   | 25   | 32   | 40   | 50   | 65   | 80   | 100  | 125  | 150  |  |  |  |
| Flanged A | -                   | -  | 100  | 91   | 108  | 143  | 157  | 175  | 226  | 243  | 308  | 388  | 442  |  |  |  |
| B         | -                   | -  | 93   | 85   | 98   | 131  | 141  | 152  | 194  | 208  | 262  | 322  | 367  |  |  |  |
| D         | -                   | -  | 130  | 150  | 160  | 180  | 200  | 230  | 290  | 310  | 350  | 400  | 480  |  |  |  |
| Weight    | -                   | -  | 1.80 | 1.80 | 2.70 | 4.00 | 4.90 | 7.70 | 14.0 | 19.0 | 31.7 | 48.0 | 62.1 |  |  |  |

### Flow Co-efficient of Valve Range Cv (Kv)

| % Open | 15   |      | 20    |      | 25    |       | DN 32 |       |
|--------|------|------|-------|------|-------|-------|-------|-------|
|        | Cv   | Kv   | Cv    | Kv   | Cv    | Kv    | Cv    | Kv    |
| 100    | 5.50 | 4.71 | 11.50 | 9.86 | 17.60 | 15.09 | 27.50 | 23.57 |
| 90     | 5.28 | 4.53 | 11.03 | 9.45 | 16.29 | 13.96 | 26.39 | 22.61 |
| 80     | 5.06 | 4.33 | 10.57 | 9.06 | 16.19 | 13.88 | 25.29 | 21.68 |
| 70     | 4.83 | 4.14 | 10.12 | 8.67 | 15.48 | 13.26 | 24.20 | 20.74 |
| 60     | 4.61 | 3.95 | 9.66  | 8.28 | 14.78 | 12.67 | 23.09 | 19.79 |
| 50     | 3.84 | 3.29 | 8.05  | 6.90 | 12.32 | 10.56 | 19.25 | 16.50 |
| 40     | 3.08 | 2.62 | 6.43  | 5.51 | 9.85  | 8.44  | 15.39 | 13.19 |
| 30     | 2.30 | 1.97 | 4.83  | 4.14 | 7.39  | 6.33  | 11.54 | 9.89  |
| 20     | 1.54 | 1.32 | 3.21  | 2.75 | 4.92  | 4.22  | 7.69  | 6.59  |
| 10     | 0.77 | 0.66 | 1.60  | 1.37 | 2.46  | 2.11  | 3.84  | 3.29  |
| 0      | 0    | 0    | 0     | 0    | 0     | 0     | 0     | 0     |

| % Open | 40    |       | 50    |       | 65     |        | DN 80  |        |
|--------|-------|-------|-------|-------|--------|--------|--------|--------|
|        | Cv    | Kv    | Cv    | Kv    | Cv     | Kv     | Cv     | Kv     |
| 100    | 43.00 | 36.86 | 80.00 | 68.61 | 127.00 | 108.80 | 185.00 | 158.60 |
| 90     | 41.28 | 35.40 | 76.80 | 65.86 | 121.00 | 103.70 | 177.00 | 151.70 |
| 80     | 39.56 | 33.91 | 73.59 | 63.11 | 116.00 | 99.40  | 170.00 | 145.70 |
| 70     | 37.84 | 32.43 | 70.40 | 60.37 | 111.00 | 95.10  | 162.00 | 138.90 |
| 60     | 36.11 | 30.95 | 67.19 | 57.62 | 106.00 | 90.90  | 155.00 | 132.90 |
| 50     | 30.10 | 25.81 | 56.00 | 48.03 | 88.90  | 76.20  | 129.00 | 110.60 |
| 40     | 24.07 | 20.63 | 44.79 | 38.39 | 71.12  | 60.90  | 103.00 | 88.30  |
| 30     | 18.05 | 15.47 | 33.59 | 28.79 | 53.33  | 45.70  | 77.70  | 66.60  |
| 20     | 12.03 | 10.31 | 22.39 | 19.19 | 35.56  | 30.50  | 51.80  | 44.40  |
| 10     | 6.01  | 5.15  | 11.19 | 9.60  | 17.78  | 15.20  | 25.90  | 22.20  |
| 0      | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      |

| % Open | 100   |     | 125 |     | 150 |     |
|--------|-------|-----|-----|-----|-----|-----|
|        | Cv    | Kv  | Cv  | Kv  | Cv  | Kv  |
| 100    | 315   | 270 | 420 | 360 | 605 | 519 |
| 90     | 302   | 259 | 403 | 345 | 580 | 497 |
| 80     | 289   | 248 | 386 | 331 | 556 | 477 |
| 70     | 277   | 237 | 369 | 316 | 532 | 456 |
| 60     | 264   | 226 | 352 | 302 | 508 | 435 |
| 50     | 220   | 189 | 294 | 252 | 423 | 363 |
| 40     | 176   | 151 | 235 | 201 | 338 | 290 |
| 30     | 132   | 113 | 176 | 151 | 254 | 218 |
| 20     | 88.20 | 76  | 117 | 100 | 169 | 145 |
| 10     | 44.10 | 38  | 59  | 49  | 85  | 73  |
| 0      | 0     | 0   | 0   | 0   | 0   | 0   |

Cv is flow in US gpm through valve at Δ P of 1 psi  
Kv is flow in m³/hr through valve at Δ P of 1 bar