

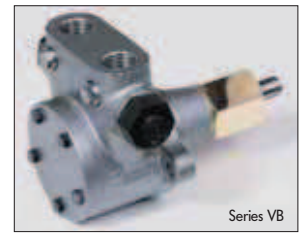
## Series VB; with integrated overflow valve

# 1.2

### Technical selection chart: scaled drawings

Direction of rotation viewed from shaft  
**I** = indirect – counterclockwise  
**D** = direct – clockwise

The direction of rotation can only be changed in the factory. Therefore please assure that you state the desired direction of rotation as per the size chart/sheet when ordering!



Series VB

### hp-Internal gear pumps up to 40 bar (direction **I** = indirect –counterclockwise)

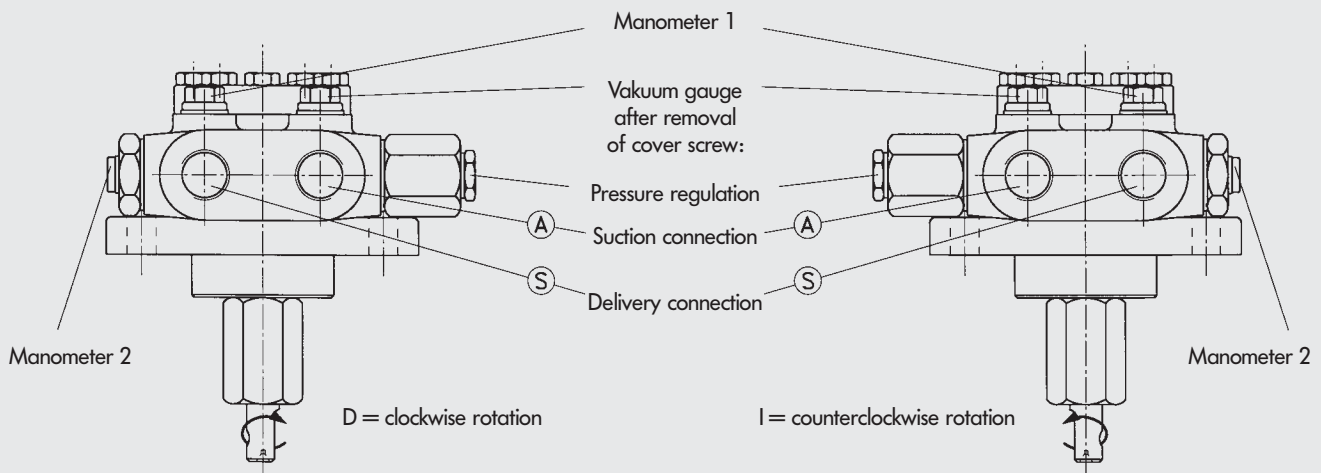
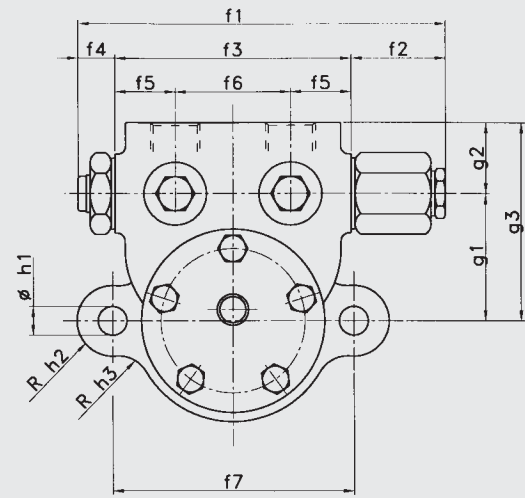
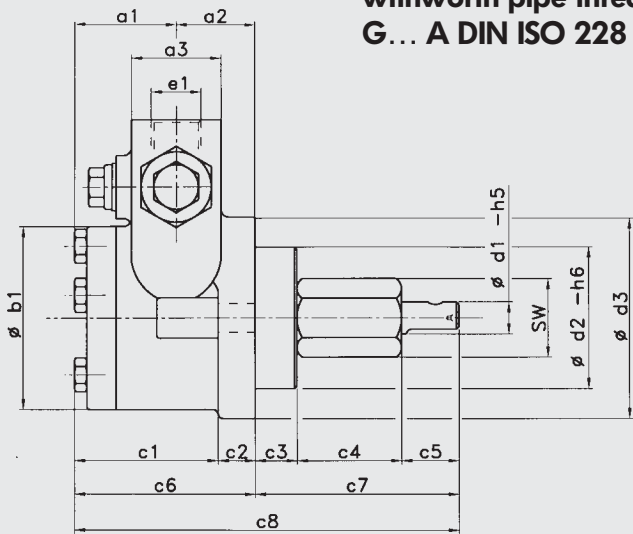
| Pump series VB | Viscosity: 6 mm <sup>2</sup> sec <sup>-1</sup> at 20 °C |           |           |               |  |           |           |               | Gear rotor size Ø | Shaft Ø | Threaded connection for (S/A) | Manometer connection | Max. allowed pump RPM (min <sup>-1</sup> ) | Net weight (kg) |
|----------------|---|-----------|-----------|---------------|--|-----------|-----------|---------------|-------------------|---------|-------------------------------|----------------------|--|-----------------|
|                | n = 1400 min <sup>-1</sup> Discharge l/h                |           |           |               | n = 2800 min <sup>-1</sup> Discharge l/h |           |           |               |                   |         |                               |                      |  |                 |
|                | at 9 bar  | at 30 bar | at 40 bar | Article-no. I | at 9 bar                                 | at 30 bar | at 40 bar | Article-no. I |                   |         |                               |                      |  |                 |
| VB P           | 45  | 30        | 20        | 011/0007      | 90                                       | 60        | 50        | 013/0007      | 25                | 12      | 3/8"                          | 1/4"                 | 2800                                       | 2,5             |
| VB M           | 80  | 60        | 50        | 011/0008      | 160                                      | 130       | 120       | 013/0008      | 25                | 12      | 3/8"                          | 1/4"                 | 2800                                       | 2,5             |
| VB G           | 120   | 100       | 80        | 011/0009      | 240                                      | 200       | 190       | 013/0009      | 25                | 12      | 3/8"                          | 1/4"                 | 2800                                       | 2,5             |
| VB F           | 160   | 140       | 120       | 011/0010      | 320                                      | 270       | 260       | 013/0010      | 25                | 12      | 3/8"                          | 1/4"                 | 2800                                       | 2,5             |
| VBG PP         | 150   | 100       | 80        | 011/0055      | 300                                      | 240       | 210       | 013/0030      | 38                | 12      | 1/2"                          | 1/4"                 | 2800                                       | 3,3             |
| VBG PZ         | 200   | 160       | 140       | 011/0056      | 400                                      | 310       | 280       | 013/0056      | 38                | 12      | 1/2"                          | 1/4"                 | 2800                                       | 3,3             |
| VBG P          | 300   | 240       | 200       | 011/0022      | 600                                      | 520       | 480       | 013/0021      | 38                | 12      | 1/2"                          | 1/4"                 | 2800                                       | 3,3             |
| VBG MZ         | -   | -         | -         | -             | 850                                      | 750       | 700       | 013/0070      | 38                | 12      | 1/2"                          | 1/4"                 | 2800                                       | 3,3             |
| VBG M          | 450   | 390       | 360       | 011/0023      | 900                                      | 850       | 730       | 013/0022      | 38                | 12      | 1/2"                          | 1/4"                 | 2800                                       | 3,3             |
| VBG GZ         | -   | -         | -         | -             | 1100                                     | 1000      | 870       | 013/0065      | 38                | 12      | 1/2"                          | 1/4"                 | 2800                                       | 3,3             |
| VBG G          | 600   | 540       | 480       | 011/0024      | 1200                                     | 1080      | 960       | 013/0032      | 38                | 12      | 1/2"                          | 1/4"                 | 1680                                       | 3,3             |
| VBH P          | 1000  | 700       | 600       | 011/0034      | -  | -         | -         | -             | 56                | 18      | 3/4"                          | 1/4"                 | 1680                                       | 7,3             |
| VBH M          | 1500  | 1200      | 1000      | 011/0035      | -  | -         | -         | -             | 56                | 18      | 3/4"                          | 1/4"                 | 1680                                       | 7,3             |
| VBH G          | 2000  | 1700      | 1400      | 011/0036      | -  | -         | -         | -             | 56                | 18      | 3/4"                          | 1/4"                 | 1680                                       | 7,3             |
| VBHG P         | 3000  | 2200      | 2000      | 011/0046      | -  | -         | -         | -             | 75                | 22      | 1"                            | 1/4"                 | 1400                                       | 18,6            |
| VBHG PZ        | 3700  | 3000      | 2700      | 011/0085      | -  | -         | -         | -             | 75                | 22      | 1"                            | 1/4"                 | 1400                                       | 18,6            |
| VBHG M         | 4500  | 3600      | 3200      | 011/0047      | -  | -         | -         | -             | 75                | 22      | 1"                            | 1/4"                 | 1400                                       | 18,6            |
| VBHG G         | 6000  | 4800      | -         | 011/0048      | -  | -         | -         | -             | 75                | 22      | 1"                            | 1/4"                 | 1400                                       | 18,6            |

### hp-Internal gear pumps up to 40 bar (direction **D** = direct – clockwise)

| Pump series VB | Viscosity: 6 mm <sup>2</sup> sec <sup>-1</sup> at 20 °C |           |           |               |  |           |           |               | Gear rotor size Ø | Shaft Ø | Threaded connection for (S/A) | Manometer connection | Heating capacity HI in Watt at 220V, 50Hz at I/D | Initial pump breakaway torque at I/D |
|----------------|---|-----------|-----------|---------------|--|-----------|-----------|---------------|-------------------|---------|-------------------------------|----------------------|--|--------------------------------------|
|                | n = 1400 min <sup>-1</sup> Discharge l/h                |           |           |               | n = 2800 min <sup>-1</sup> Discharge l/h |           |           |               |                   |         |                               |                      |  |                                      |
|                | at 9 bar  | at 30 bar | at 40 bar | Article-no. D | at 9 bar                                 | at 30 bar | at 40 bar | Article-no. D |                   |         |                               |                      |  |                                      |
| VB P           | 45  | 30        | 20        | 012/0007      | 90                                       | 60        | 50        | 014/0007      | 25                | 12      | 3/8"                          | 1/4"                 | 100  | 1,2                                  |
| VB M           | 80  | 60        | 50        | 012/0008      | 160                                      | 130       | 120       | 014/0008      | 25                | 12      | 3/8"                          | 1/4"                 | 100  | 1,2                                  |
| VB G           | 120   | 100       | 80        | 012/0009      | 240                                      | 200       | 190       | 014/0009      | 25                | 12      | 3/8"                          | 1/4"                 | 100  | 1,2                                  |
| VB F           | 160   | 140       | 120       | 012/0010      | 320                                      | 270       | 260       | 014/0010      | 25                | 12      | 3/8"                          | 1/4"                 | 100  | 1,2                                  |
| VBG PP         | 150   | 100       | 80        | 012/0055      | 300                                      | 240       | 210       | 014/0030      | 38                | 12      | 1/2"                          | 1/4"                 | 100  | 1,6                                  |
| VBG PZ         | 200   | 160       | 140       | 012/0056      | 400                                      | 310       | 280       | 014/0056      | 38                | 12      | 1/2"                          | 1/4"                 | 100  | 1,6                                  |
| VBG P          | 300   | 240       | 200       | 012/0022      | 600                                      | 520       | 480       | 014/0021      | 38                | 12      | 1/2"                          | 1/4"                 | 100  | 1,6                                  |
| VBG MZ         | -   | -         | -         | -             | 850                                      | 750       | 700       | 014/0070      | 38                | 12      | 1/2"                          | 1/4"                 | 100  | 1,6                                  |
| VBG M          | 450   | 390       | 360       | 012/0023      | 900                                      | 850       | 730       | 014/0022      | 38                | 12      | 1/2"                          | 1/4"                 | 100  | 1,6                                  |
| VBG GZ         | -   | -         | -         | -             | 1100                                     | 1000      | 870       | 014/0065      | 38                | 12      | 1/2"                          | 1/4"                 | 100  | 1,6                                  |
| VBG G          | 600   | 540       | 480       | 012/0024      | 1200                                     | 1080      | 960       | 014/0032      | 38                | 12      | 1/2"                          | 1/4"                 | 100  | 1,6                                  |
| VBH P          | 1000  | 700       | 600       | 012/0034      | -  | -         | -         | -             | 56                | 18      | 3/4"                          | 1/4"                 | 160  | 3,2                                  |
| VBH M          | 1500  | 1200      | 1000      | 012/0035      | -  | -         | -         | -             | 56                | 18      | 3/4"                          | 1/4"                 | 160  | 3,2                                  |
| VBH G          | 2000  | 1700      | 1400      | 012/0036      | -  | -         | -         | -             | 56                | 18      | 3/4"                          | 1/4"                 | 160  | 3,2                                  |
| VBHG P         | 3000  | 2200      | 2000      | 012/0046      | -  | -         | -         | -             | 75                | 22      | 1"                            | 1/4"                 | 280  | 4,6                                  |
| VBHG PZ        | 3700  | 3000      | 2700      | 012/0085      | -  | -         | -         | -             | 75                | 22      | 1"                            | 1/4"                 | 280  | 4,6                                  |
| VBHG M         | 4500  | 3600      | 3200      | 012/0047      | -  | -         | -         | -             | 75                | 22      | 1"                            | 1/4"                 | 280  | 4,6                                  |
| VBHG G         | 6000  | 4800      | -         | 012/0048      | -  | -         | -         | -             | 75                | 22      | 1"                            | 1/4"                 | 280  | 4,6                                  |

\* To insure proper pump functioning, all pipe connections must be sized as per the principles of fluid technology using the phase quantity and in accordance with the given conditions at the installation site! The size of the pump and/or device connections is not indicative of the size of the pipe connection which must be used.

#### Manometer connection cyl. with worth pipe threading G... A DIN ISO 228



| Gear rotor size $\varnothing$ | Discharge l/h          |                        | a1   | a2 | a3 | b1  | c1    | c2 | c3 | c4 | c5 | c6    | c7  |
|-------------------------------|------------------------|------------------------|------|----|----|-----|-------|----|----|----|----|-------|-----|
|                               | 1400 min <sup>-1</sup> | 2800 min <sup>-1</sup> |      |    |    |     |       |    |    |    |    |       |     |
| 25                            | 45 - 160               | 90 - 320               | 35,5 | 20 | 33 | 51  | 41,5  | 14 | 16 | 40 | 20 | 55,5  | 76  |
| 38                            | 150 - 600              | 300 - 1200             | 39,5 | 30 | 38 | 70  | 55,5  | 14 | 16 | 40 | 20 | 69,5  | 76  |
| 56                            | 1000 - 2000            | -                      | 48,5 | 38 | 45 | 96  | 71,5  | 15 | 18 | 79 | 27 | 86,5  | 124 |
| 75                            | 3000 - 6000            | -                      | 62,5 | 85 | 70 | 115 | 129,5 | 18 | 25 | 65 | 37 | 147,5 | 127 |

| Gear rotor size $\varnothing$ | Discharge l/h          |                        | c8    | d1 | sw/e    | d2 | d3  | e1     | f1  | f2   | f3  | f4   | f7 |
|-------------------------------|------------------------|------------------------|-------|----|---------|----|-----|--------|-----|------|-----|------|----|
|                               | 1400 min <sup>-1</sup> | 2800 min <sup>-1</sup> |       |    |         |    |     |        |     |      |     |      |    |
| 25                            | 45 - 160               | 90 - 320               | 131,5 | 12 | 27/31,2 | 54 | 80  | G 3/8" | 139 | 32   | 90  | 17   | -  |
| 38                            | 150 - 600              | 300 - 1200             | 145,5 | 12 | 27/31,2 | 54 | 80  | G 1/2" | 139 | 32   | 90  | 17   | -  |
| 56                            | 1000 - 2000            | -                      | 210,5 | 18 | 46/53,1 | 60 | 100 | G 3/4" | 162 | 26,5 | 118 | 17,5 | -  |
| 75                            | 3000 - 6000            | -                      | 274,5 | 22 | 55/63,5 | 80 | 120 | G 1"   | 211 | 36   | 150 | 25   | -  |

| Gear rotor size $\varnothing$ | Discharge l/h          |                        | f5   | f6 | f7  | f8  | g1 | g2 | g3  | h1   | h2 | h3 | h4 |
|-------------------------------|------------------------|------------------------|------|----|-----|-----|----|----|-----|------|----|----|----|
|                               | 1400 min <sup>-1</sup> | 2800 min <sup>-1</sup> |      |    |     |     |    |    |     |      |    |    |    |
| 25                            | 45 - 160               | 90 - 320               | 26   | 38 | 92  | 140 | 40 | 27 | 67  | 11   | 13 | 13 | -  |
| 38                            | 150 - 600              | 300 - 1200             | 23   | 44 | 92  | 140 | 48 | 27 | 75  | 11   | 13 | 13 | -  |
| 56                            | 1000 - 2000            | -                      | 25,5 | 67 | 120 | 171 | 55 | 35 | 90  | 13   | 13 | 25 | -  |
| 75                            | 3000 - 6000            | -                      | 35   | 80 | 150 | 218 | 80 | 40 | 120 | 14,5 | 15 | -  | -  |