

## PRESSURE REDUCING VALVE PRV25

### DESCRIPTION

The PRV25 is a series of direct acting pressure reducing valves designed for use on steam, compressed air, water and other gases and liquids. These regulators are suitable for reducing steam pressure at the point of use on laundry machines, dyeing, food industries, sterilizers, etc.

### MAIN FEATURES

Compact design.  
Bellows specially designed for high durability.  
Non-rising adjustment knob.  
Lockable knob system.  
Built-in strainer.

**OPTIONS:** Rising adjustment knob with lock nut.  
Top cap (adjustment screw with cover).  
Spring and dome load version.  
Gauge connection on body.

**USE:** Saturated steam, compressed air, water and other gases and liquids compatible with the construction.

**AVAILABLE MODELS:** PRV25/2S and PRV25/2SG – carbon steel.  
PRW25/2S – carbon steel, balanced soft sealing.  
PRV25i and PRV25iG – stainless steel.  
PRW25i – stainless steel, balanced soft sealing.  
Suffix G: soft sealed with PTFE/GR.

**SIZES:** 1/2" to 1"; DN 15 to DN 25.

**CONNECTIONS:** Female threaded ISO 7 Rp or NPT.  
Flanged EN 1092-1 PN 25.  
Flanged ASME B16.5 Class 150 or 300.

**INSTALLATION:** Horizontal installation is recommended.  
A "Y" strainer should be installed upstream of the valve.  
See IMI – Installation and maintenance instructions.



### CE MARKING – GROUP 2 (PED – European Directive)

| PN 25       | Category |
|-------------|----------|
| DN 15 to 25 | SEP      |

#### LIMITING CONDITIONS

| Valve model                        | PRV25/2S<br>PRV25i | PRV25/2SG<br>PRV25iG | PRW25/2S<br>PRW25i |
|------------------------------------|--------------------|----------------------|--------------------|
| Body design conditions             | PN 25              | PN 25                | PN 25              |
| Maximum upstream pressure          | 17 bar             | 17 bar               | 14 bar             |
| Maximum downstream pressure        | 8,6 bar            | 8,6 bar              | 8,6 bar            |
| Minimum downstream pressure        | 0,14 bar           | 0,14 bar             | 0,35 bar           |
| Maximum design temperature         | 210 °C             | 200 °C               | 80 °C              |
| Maximum recommended reducing ratio | 10:1               | 10:1                 | 10:1               |
| Maximum dome loading pressure      | 8,6 bar            | 8,6 bar              | 8,6 bar            |

#### FLOW RATE COEFFICIENTS (m³/h)

| SIZE | 1/2" – DN 15 | 3/4" – DN 20 | 1" – DN 25 |
|------|--------------|--------------|------------|
| Kvs  | 1,7          | 2,6          | 3,1        |

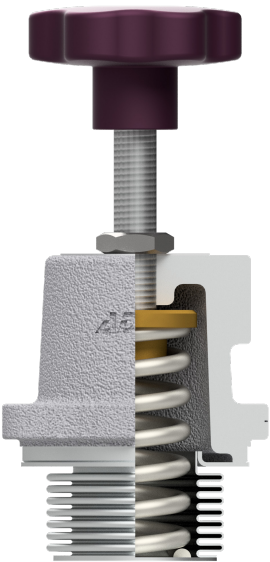
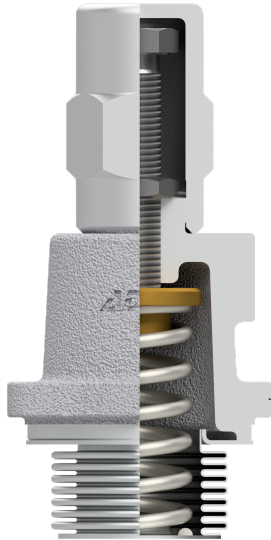
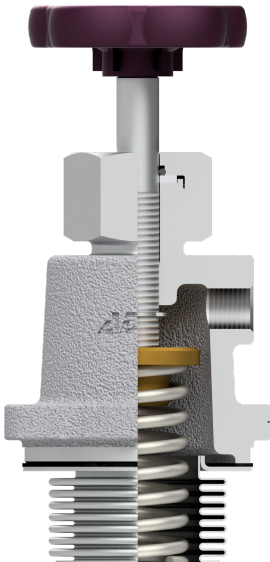
#### REGULATING RANGES

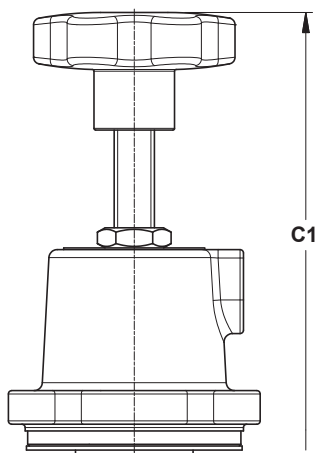
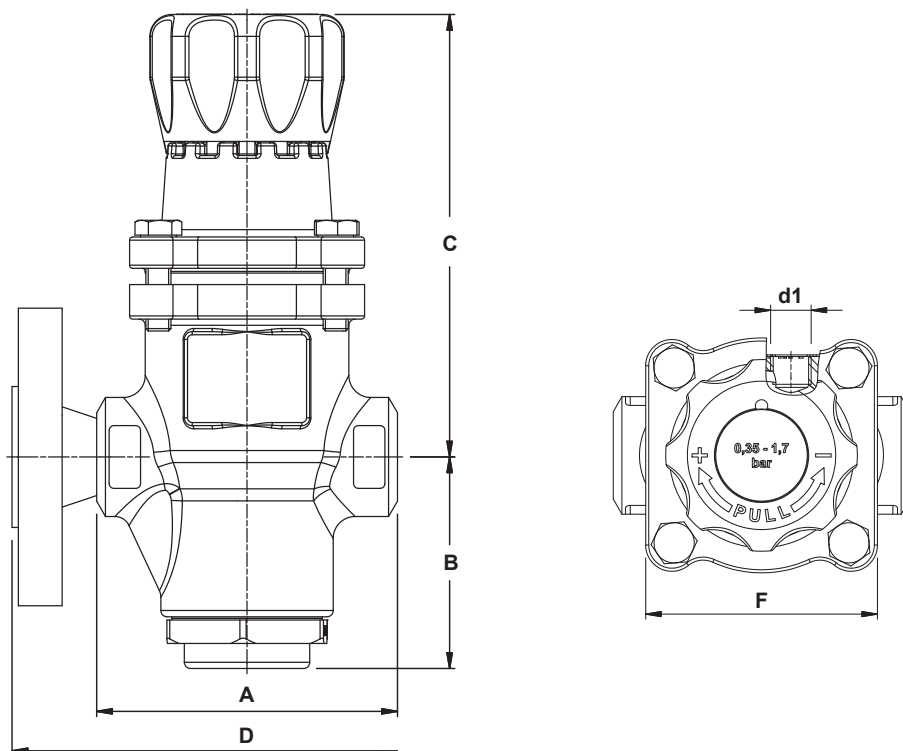
| SPRING COLOUR              | BLUE *          | YELLOW **       | GREEN        | RED            |
|----------------------------|-----------------|-----------------|--------------|----------------|
| Spring loaded              | 0,35 to 1,7 bar | 0,14 to 1,7 bar | 1,4 to 4 bar | 3,5 to 8,6 bar |
| Spring and dome loaded *** | –               | 0,14 to 1,2 bar | 1 to 3,5 bar | –              |

\* Only applicable to PRW models; \*\* Only applicable to PRV models.

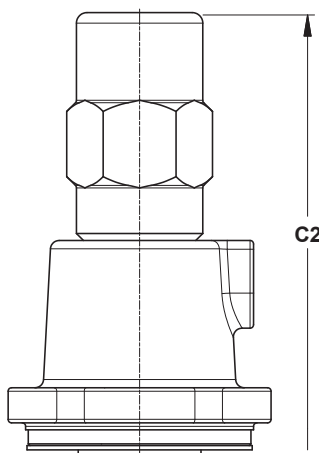
\*\*\* Ranges shown are related to adjustment spring loading forces. Total downstream pressure will correspond to the sum of the pressure resulting from the adjusted spring force and the loading pressure provided by the dome. Not applicable to PRW models.

#### PRV25 OPTIONAL COVERS

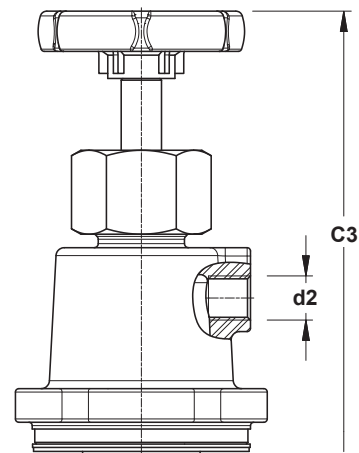
| RISING ADJUSTMENT KNOB<br>WITH LOCK NUT                                             | TOP CAP                                                                             | SPRING AND DOME LOADED                                                                |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |



Optional rising adjustment knob



Optional top cap



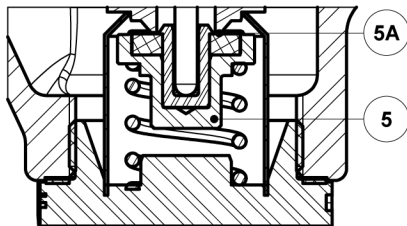
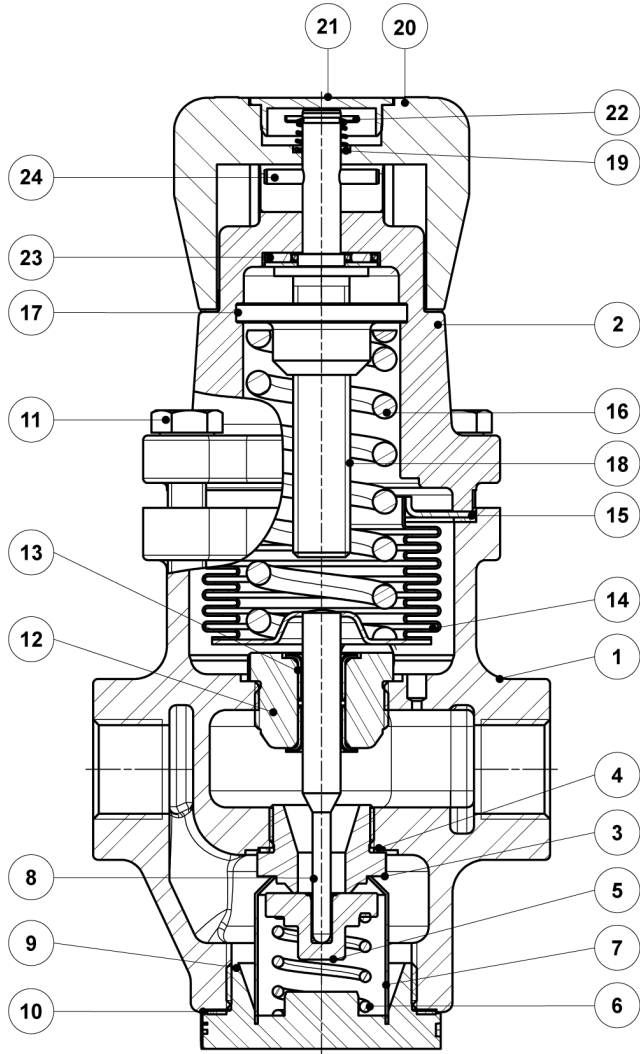
Optional spring and dome loaded version

DIMENSIONS (mm)

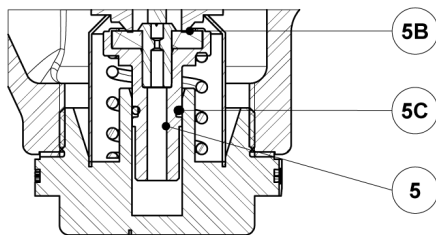
| THREADED     |    |      |     |     |     |     |      |       |    |           | PN 25 |           | CLASS 150 |           | CLASS 300 |           |
|--------------|----|------|-----|-----|-----|-----|------|-------|----|-----------|-------|-----------|-----------|-----------|-----------|-----------|
| SIZE         | A  | B    | C   | C1  | C2  | C3  | d1 * | d2 ** | F  | WGT. (kg) | D     | WGT. (kg) | D         | WGT. (kg) | D         | WGT. (kg) |
| 1/2" – DN 15 | 96 | 68,5 | 141 | 242 | 237 | 243 | 1/4" | 1/4"  | 74 | 3         | 150   | 4,4       | 150       | 4         | 150       | 4,4       |
| 3/4" – DN 20 | 96 | 68,5 | 141 | 242 | 237 | 243 | 1/4" | 1/4"  | 74 | 3         | 150   | 5         | 150       | 4,4       | 150       | 5,3       |
| 1" – DN 25   | 96 | 68,5 | 141 | 242 | 237 | 243 | 1/4" | 1/4"  | 74 | 2,9       | 160   | 5,5       | 160       | 5,1       | 160       | 5,9       |

\* Optional gauge connection; \*\* Loading gas dome connection.

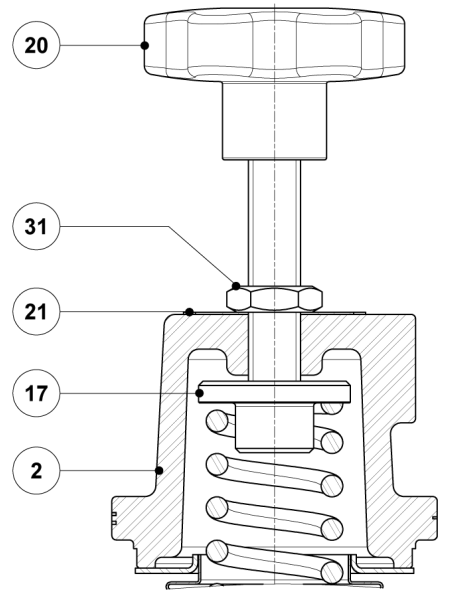
Remarks: As standard, in versions manufactured with EN 1092-1 PN 16 flanges or ISO Rp threads, connections d1 and d2 are female threaded ISO 7 Rp. In versions with ASME B16.5 flanges or NPT threads, these connections are female threaded NPT.



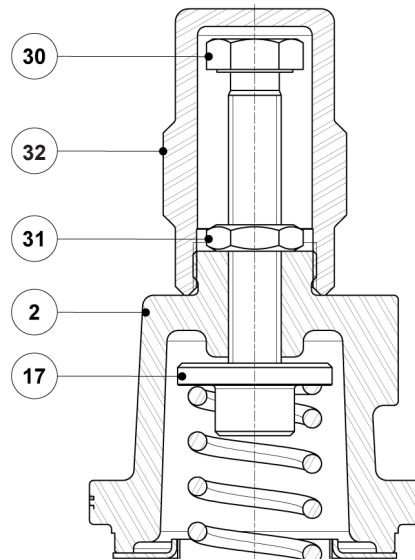
*Soft sealing*



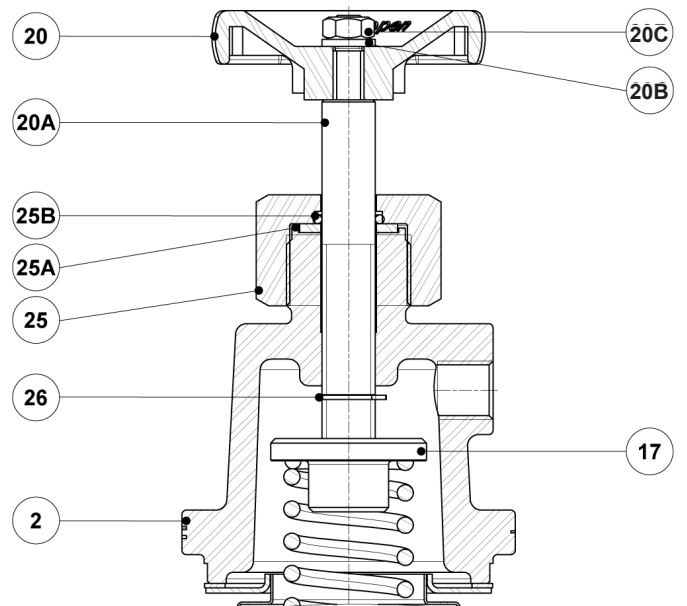
*Balanced soft sealing (PRW)*



*Optional rising adjustment knob*



*Optional top cap*



*Optional spring and dome loaded version*

## MATERIALS

| POS. N° | DESIGNATION                   | MATERIAL                   |
|---------|-------------------------------|----------------------------|
| 1       | Body (PRV25/2S and PRW25/2S)  | A216 WCB / 1.0619          |
|         | Body (PRV25i and PRW25i)      | A351 CF8M / 1.4408         |
| 2       | Cover (PRV25/2S and PRW25/2S) | A216 WCB / 1.0619          |
|         | Cover (PRV25i and PRW25i)     | A351 CF8M / 1.4408         |
| 3       | * Seat                        | AISI 316 / 1.4401          |
| 4       | * Gasket                      | Copper                     |
| 5       | * Valve plug                  | Hardened stainless steel   |
| 5A      | * Valve head                  | Graphite filled PTFE       |
| 5B      | * Valve head                  | NBR                        |
| 5C      | * O-ring                      | NBR                        |
| 6       | * Valve spring                | AISI 302 / 1.4300          |
| 7       | * Strainer screen             | AISI 304 / 1.4301          |
| 8       | Pushrod                       | AISI 316 / 1.4401          |
| 9       | Bottom cover                  | A351 CF8M / 1.4408         |
| 10      | * Gasket                      | Stainless steel / Graphite |
| 11      | Bolts (PRV25/2S and PRW25/2S) | Steel 8.8                  |
|         | Bolts (PRV25i and PRW25i)     | Stainless steel A2-70      |
| 12      | * Guide bush                  | AISI 316 / 1.4401          |
| 13      | * Plain bearing               | Bronze filled PTFE         |
| 14      | * Bellows                     | AISI 316 Ti / 1.4571       |
| 15      | * Bellows gasket              | Stainless steel / Graphite |
| 16      | * Adjustment spring           | Steel                      |
| 17      | Top spring plate              | Brass                      |
| 18      | Adjustment screw              | AISI 304 / 1.4301          |
| 19      | Spring                        | AISI 302 / 1.4300          |
| 20      | Adjustment knob               | Nylon                      |
| 20A     | Adjustment stem               | AISI 304 / 1.4301          |
| 20B     | Washer                        | Stainless steel            |
| 20C     | Nut                           | Stainless steel A2-70      |
| 21      | Spring identification plate   | Plastic; Aluminium         |
| 22      | Retaining washer              | AISI 302 / 1.4300          |
| 23      | Bearing                       | Steel                      |
| 24      | Pin                           | AISI 304 / 1.4301          |
| 25      | Cover nut                     | AISI 303 / 1.4305          |
| 25A     | * Gasket                      | PTFE                       |
| 25B     | * O-ring                      | EPDM                       |
| 26      | Retaining ring                | Stainless steel A2-70      |
| 30      | Adjustment screw              | Stainless steel A2-70      |
| 31      | Nut                           | Stainless steel A2-70      |
| 32      | Top cap                       | AISI 303 / 1.4305          |

\* Available spare parts.

**CAPACITY TABLE**

| SATURATED STEAM (kg/h) |                 |       |       |       | COMPRESSED AIR (Nm³/h – 0 °C – 1,013 bar) |                 |       |       |       | WATER (m³/h) |       |       |       |
|------------------------|-----------------|-------|-------|-------|-------------------------------------------|-----------------|-------|-------|-------|--------------|-------|-------|-------|
| INLET<br>(bar)         | OUTLET<br>(bar) | SIZE  |       |       | INLET<br>(bar)                            | OUTLET<br>(bar) | SIZE  |       |       | D.P<br>(bar) | SIZE  |       |       |
|                        |                 | DN 15 | DN 20 | DN 25 |                                           |                 | DN 15 | DN 20 | DN 25 |              | DN 15 | DN 20 | DN 25 |
| 2                      | 0,2 – 1         | 75    | 110   | 132   | 2                                         | 0,2 – 1         | 120   | 126   | 147   | 1,5          | 2,10  | 3,21  | 3,83  |
|                        | 1,8             | 68    | 102   | 125   |                                           | 1,8             | 109   | 112   | 135   |              | 2,43  | 3,70  | 4,42  |
| 3                      | 0,3 – 1,5       | 104   | 148   | 177   | 3                                         | 0,3 – 1,5       | 157   | 169   | 195   | 3            | 2,95  | 4,54  | 5,41  |
|                        | 2               | 97    | 141   | 170   |                                           | 2               | 150   | 162   | 187   |              | 3,43  | 5,24  | 6,25  |
|                        | 2,6             | 90    | 134   | 162   |                                           | 2,6             | 142   | 153   | 178   | 5            | 3,78  | 5,78  | 6,90  |
| 4                      | 0,4 – 2         | 125   | 180   | 210   | 4                                         | 0,4 – 2         | 196   | 203   | 243   |              | 4,16  | 6,25  | 7,45  |
|                        | 2,5             | 118   | 171   | 201   |                                           | 2,5             | 188   | 196   | 235   | 7            | 4,37  | 6,68  | 7,96  |
|                        | 3,6             | 107   | 158   | 190   |                                           | 3,6             | 170   | 181   | 219   |              | 4,63  | 7,08  | 8,45  |
| 5                      | 0,5 – 2,5       | 137   | 192   | 230   | 5                                         | 0,5 – 2,5       | 208   | 222   | 253   | 9            | 4,88  | 7,47  | 8,90  |
|                        | 3               | 134   | 189   | 222   |                                           | 3               | 202   | 211   | 242   |              | 5,12  | 7,83  | 9,34  |
|                        | 4,5             | 128   | 183   | 213   |                                           | 4,5             | 197   | 203   | 235   | 12           | 5,56  | 8,51  | 10,15 |
| 6                      | 0,6 – 3         | 166   | 221   | 266   | 6                                         | 0,6 – 3         | 240   | 251   | 298   |              |       |       |       |
|                        | 4               | 154   | 212   | 256   |                                           | 4               | 232   | 244   | 286   |              |       |       |       |
|                        | 5,5             | 138   | 200   | 242   |                                           | 5,5             | 225   | 230   | 266   |              |       |       |       |
| 7                      | 0,7 – 3,5       | 175   | 250   | 300   | 7                                         | 0,7 – 3,5       | 269   | 282   | 337   |              |       |       |       |
|                        | 4,5             | 168   | 242   | 290   |                                           | 4,5             | 260   | 270   | 321   |              |       |       |       |
|                        | 5,5             | 157   | 228   | 270   |                                           | 5,5             | 245   | 255   | 300   |              |       |       |       |
|                        | 6,3             | 148   | 216   | 253   |                                           | 6,3             | 233   | 244   | 284   |              |       |       |       |
| 8                      | 0,8 – 4         | 222   | 300   | 357   | 8                                         | 0,8 – 4         | 323   | 339   | 396   |              |       |       |       |
|                        | 5               | 208   | 290   | 350   |                                           | 5               | 315   | 330   | 383   |              |       |       |       |
|                        | 6               | 189   | 271   | 330   |                                           | 6               | 290   | 306   | 361   |              |       |       |       |
|                        | 7,2             | 170   | 240   | 286   |                                           | 7,2             | 258   | 270   | 318   |              |       |       |       |
| 9                      | 0,9 – 4,5       | 230   | 321   | 382   | 9                                         | 0,9 – 4,5       | 347   | 363   | 424   |              |       |       |       |
|                        | 6               | 209   | 300   | 363   |                                           | 6               | 322   | 340   | 400   |              |       |       |       |
|                        | 7               | 192   | 271   | 324   |                                           | 7               | 293   | 309   | 364   |              |       |       |       |
|                        | 8               | 172   | 241   | 285   |                                           | 8               | 264   | 279   | 328   |              |       |       |       |
| 10                     | 1 – 5           | 238   | 341   | 408   | 10                                        | 1 – 5           | 372   | 388   | 453   |              |       |       |       |
|                        | 6               | 230   | 330   | 397   |                                           | 6               | 354   | 375   | 438   |              |       |       |       |
|                        | 7               | 215   | 307   | 363   |                                           | 7               | 328   | 348   | 410   |              |       |       |       |
|                        | 8,6             | 177   | 260   | 312   |                                           | 8,6             | 280   | 296   | 348   |              |       |       |       |
| 11                     | 1,1 – 5,5       | 250   | 358   | 427   | 11                                        | 1,1 – 5,5       | 387   | 404   | 474   |              |       |       |       |
|                        | 6               | 244   | 348   | 415   |                                           | 6               | 375   | 394   | 463   |              |       |       |       |
|                        | 7               | 237   | 337   | 402   |                                           | 7               | 362   | 383   | 451   |              |       |       |       |
|                        | 8,6             | 206   | 296   | 356   |                                           | 8,6             | 319   | 338   | 398   |              |       |       |       |
| 12                     | 1,2 – 6         | 265   | 375   | 449   | 12                                        | 1,2 – 6         | 404   | 423   | 500   |              |       |       |       |
|                        | 7               | 260   | 370   | 444   |                                           | 7               | 398   | 418   | 492   |              |       |       |       |
|                        | 8               | 246   | 350   | 421   |                                           | 8               | 375   | 400   | 469   |              |       |       |       |
|                        | 8,6             | 236   | 333   | 400   |                                           | 8,6             | 358   | 380   | 448   |              |       |       |       |
| 13                     | 1,3 – 6,5       | 281   | 398   | 476   | 13                                        | 1,3 – 6,5       | 428   | 447   | 530   |              |       |       |       |
|                        | 7               | 279   | 391   | 470   |                                           | 7               | 420   | 440   | 522   |              |       |       |       |
|                        | 8               | 266   | 381   | 459   |                                           | 8               | 411   | 431   | 510   |              |       |       |       |
|                        | 8,6             | 257   | 367   | 440   |                                           | 8,6             | 395   | 416   | 494   |              |       |       |       |
| 15                     | 1,5 – 7,5       | 300   | 424   | 508   | 15                                        | 1,5 – 7,5       | 455   | 477   | 565   |              |       |       |       |
|                        | 8,6             | 285   | 408   | 488   |                                           | 8,6             | 439   | 463   | 546   |              |       |       |       |
| 17                     | 1,7 – 8,6       | 321   | 453   | 543   | 17                                        | 1,7 – 8,6       | 486   | 510   | 604   |              |       |       |       |