

**VENTIL UZAVÍRACÍ
PŘIVAŘOVACÍ-PŘÍRUBOVÝ-VEVAŘOVACÍ**
Teplota max.-196°C/650°C

**TYP VAP
CLASS 150-1500
DN8-50**



Kované uzavírací ventily [VAP] Forged Globe Stop Valves [VAP]

Norma: API 602 (ISO 15761)
Standard: API 602 (ISO 15761)

DN 8 (1/4") ÷ DN 50 (2")
Class 150 ÷ Class 1500

Konstrukce Design

- Kované těleso a víko
- Forged body and bonnet
- Přišroubované víko
- Bolted bonnet (BB)
- Stoupající vřeteno, vnější závit vřetena a třmen
- Rising stem (RS), outside screw and yoke (OS&Y)
- Kuželová dosedací plocha kuželky
- Conical plug seating face
- Sedla tělesa jsou integrální nebo navařená na kroužku, jenž je pak bezpečně zašroubován do tělesa
- Body seats are integral or welded on ring which is then securely screwed into the body

Použití Applications

- Rafinace, petrochemický průmysl, chemický průmysl, energetika a jiné
- Refining, Petrochemical, Chemical, Power plant and other

Média Media

- V závislosti na materiálu ventilu: voda, pára, plyny, ropa a ropné deriváty a jiná neagresivní média
- Depending on the valve materials: water, steam, gas, oil and oil derivatives and other non aggressive media

Tlak a teplota (tabulka A.4.8) Class and temperature (tab. A.4.8)

- Class 150 + Class 1500
- Class 150 + Class 1500
- Teplota až 600 °C
- Temperature up to 600 °C

Materiály (tabulka A.4.1) Materials (table A.4.1)

- Uhlíkové, žárovzdorné legované a nerezavějící oceli
- Carbon, heat resistant alloy and stainless steels

Přednosti Advantages

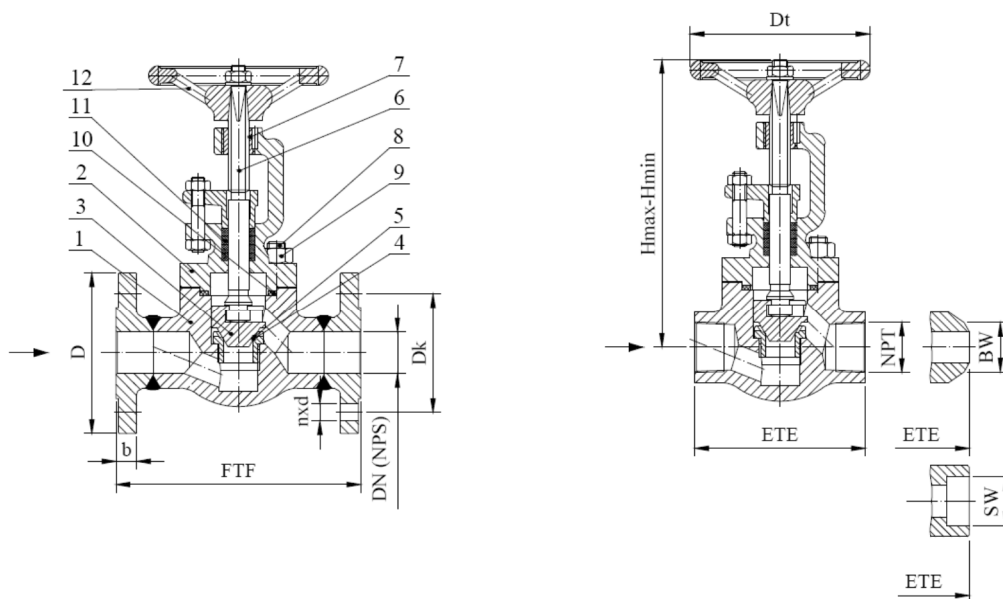
- Dlouhá životnost
- Long service life
- Dodržení emisních norem
- Respect to emission standards
- Snadná manipulace a údržba
- Easy handling and maintenance
- Výměna ucpávkového těsnění vřetena za provozních podmínek
- Stem packing replacement in working conditions

Alternativy Options

- Elektrický, hydraulický nebo pneumatický pohon
- Electric, hydraulic or pneumatic actuator
- Regulační parabolická kuželka
- Regulating parabolic disc
- Ukazatel polohy
- Position indicator
- Dosedací plochy vyrobené ze speciálních slitin nebo elastických materiálů
- Seating surfaces made of special alloys or elastic materials
- Přivařené víko
- Welded bonnet (WB)
- Prodloužená konstrukce s nástavcem tělesa
- Extended body construction (EB)
- Šikmá konstrukce (typu Y)
- Y-type construction
- Příruby a přivařovací konce podle: GOST, DIN, EN
- Flanges and welding ends according to: GOST, DIN, EN
- K dispozici jsou i jiné nátěry podle přání zákazníka
- Other paint finishes are available upon customer's request
- Ventily kompletně s protipřírubami, spojovacími součástmi a těsněními
- Valve complete with counter flanges, bolting and gaskets

Zkoušení Testing

- Každý vyrobený ventil je zkoušen podle API 598
- Every produced valve was tested according to API 598



Výkres A.4.1 Součásti a rozměry
Drawing A.4.1 Parts and dimensions

Seznam materiálů
List of materials

Tabulka A.4.1
Table A.4.1

| Poz. Item | Součást Part | Skupina materiálů podle ASME B16.34 / Material Group acc. to ASME B16.34 | | | | | | | | | | | | | | | | | | | |
|-------------------------------|-------------------------------|--|------|-------------------|------|--|------|-----------------|------|--------------------------|------|---|------|------------------|------|------------------|------|------------------|------|------------------|------|
| | | 1.1 | | 1.9 | | 1.10 | | 1.13 | | 1.15 | | 2.1 | | 2.2 | | 2.4 | | 2.5 | | | |
| | | Použití / Application | | | | | | | | | | | | | | | | | | | |
| | | -29°C+ 425°C | | -40°C+ 425°C | | -29°C+ 595°C | | -29°C+ 595°C | | -29°C+ 650°C | | -29°C+ 650°C | | -196°C+ 550°C | | -196°C+ 550°C | | -196°C+ 540°C | | -196°C+ 540°C | |
| Kód materiálu / Material Code | | | | | | | | | | | | | | | | | | | | | |
| | | 12 | | 14 | | 22 | | 24 | | 26 | | 28 | | 40 | | 42 | | 44 | | 48 | |
| 1 | Těleso Body | A105 | A350 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 |
| 2 | Víko Bonnet | A105 | A350 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 | A182 |
| 3 | Kuželka / Disc | SS 420 / SS 431 | | | | | | | | | | SS 304 / SS 316 | | | | | | | | | |
| 4 | Vnitřní vybavení / Trim | Sedlo tělesa Body Seat | | 13Cr | | Tvrký návar (Stellit) HF (Stellite) | | | | | | Základní materiál nebo Stelit Basic Material or Stellite | | | | | | | | | |
| 5 | | Sedlo kuželky Disc Seat | | 13Cr | | Tvrký návar (Stellit) HF (Stellite) | | | | | | Základní materiál nebo Stelit Basic Material or Stellite | | | | | | | | | |
| 6 | Vřeteno/Stem | SS 420 | | | | | | | | | | SS 304 nebo/or SS 316 | | | | | | | | | |
| 7 | Matice vřetena / Stem Nut | SS 420/slitina Cu / SS 420/Cu alloy | | | | | | | | | | | | | | | | | | | |
| 8 | Závrtný šroub / Stud Bolts | A193 B7 | | A193 B16 / 1.7709 | | | | | | A193 B8 nebo/or A193 B8M | | | | | | | | | | | |
| 9 | Matice / Nuts | A194 2H | | A194 4 / 1.7709 | | | | | | A194 8 nebo/or A194 8M | | | | | | | | | | | |
| 10 | Těsnění víka/ Bonnet Gasket | Spirálově vinuté / Spiral-wound | | | | | | | | | | | | | | | | | | | |
| 11 | Ucp.těsnění / Stem Packing | Grafit s inhibítorem koroze / Graphite with corrosion inhibitor | | | | | | | | | | | | | | | | | | | |
| 12 | Ruční kolo / Handwheel | Litina/ocel s epoxidovým nátěrem / Cast iron/epoxy coated steel | | | | | | | | | | | | | | | | | | | |

Normy
Standards

Tabulka A.4.2
Table A.4.2

| Kované uzavírací ventily podle API 602 (ISO 15761) Forged Globe Stop Valves acc. to API 602 (ISO 15761) | Class 150 ÷ Class 1500 |
|---|--|
| Konce pro přivaření do hrdla (SW) podle Socket welding ends (SW) according to | ASME/ANSI B16.11 |
| Konce pro přivaření na tupo (BW) podle Butt welding ends (BW) according to | ASME/ANSI B16.25 |
| Závitové konce (NPTF) podle Threaded ends (NPTF) according to | ASME/ANSI B1.20.1 |
| Stavební délky přírubových (FTF) a přivařovacích (ETE) ventilů podle Face-to-face (FTF) and End-to-end (ETE) dimension acc. to | Normy výrobce a ASME/ANSI B16.10 Manufacturer Standard and ASME/ANSI B16.10 |
| Přírubové konce podle Flanged ends according to | ASME/ANSI B16.5 |

[VAP] Rozměry Class 800 a Class 1500
[VAP] Dimensions Class 800 and Class 1500

Tabulka A.4.3
Table A.4.3

| DN (NPS) | Class 800 | | | | | | Class 1500 | | | | | | |
|-------------|-----------|------|-----|-------|-------|--------|------------|------|-----|-------|-------|--------|--------|
| | ETE | SW | Dt | H max | H min | ⌀ (mm) | ETE | SW | Dt | H max | H min | ⌀ (mm) | m (kg) |
| | | | | | | | | | | | | | |
| 8 (1/4) | 84 | 14,2 | 100 | 193 | 177 | 2,1 | 90 | 14,2 | 100 | 195 | 183 | 2,6 | 2,6 |
| 10 (3/8) | 84 | 17,6 | 100 | 193 | 177 | 2,1 | 90 | 17,6 | 100 | 195 | 183 | 2,6 | 2,6 |
| 15 (1/2) | 84 | 21,8 | 100 | 193 | 177 | 2,1 | 90 | 21,8 | 100 | 195 | 183 | 2,6 | 2,6 |
| 20 (3/4) | 90 | 27,2 | 100 | 198 | 180 | 2,6 | 114 | 27,2 | 100 | 212 | 197 | 4,1 | 4,1 |
| 25 (1) | 114 | 33,9 | 125 | 220 | 197 | 4,1 | 180 | 33,9 | 160 | 279 | 259 | 8,2 | 8,2 |
| 32 (1 1/4) | 180 | 42,7 | 160 | 279 | 254 | 8,2 | 210 | 42,7 | 160 | 314 | 294 | 8,2 | 8,2 |
| 40 (1 1/2) | 180 | 48,8 | 160 | 279 | 254 | 8,2 | 210 | 48,8 | 160 | 314 | 294 | 11,5 | 11,5 |
| 50 (2) | 210 | 61,2 | 160 | 314 | 288 | 11,5 | - | - | - | - | - | - | - |

Připojovací konce mohou být závitové (NPT), přivařovací na tupo (BW) nebo přivařovací do hrdla (SW).
 End connections can be threaded (NPT), with butt welding (BW) or with socket welding ends (SW).

[VAP] Rozměry Class 150
[VAP] Dimensions Class 150

Tabulka A.4.4
Table A.4.4

| DN (NPS) | FTF | D | b | Dk | d | n | H max | H min | Dt | m (kg) |
|-------------|--------|-----|------|------|------|---|-------|-------|-----|--------|
| | ⌀ (mm) | | | | | | | | | |
| 15 (1/2) | 108 | 90 | 11,6 | 60,3 | 15,9 | 4 | 193 | 177 | 100 | 3 |
| 20 (3/4) | 117 | 100 | 13,2 | 69,9 | 15,9 | 4 | 198 | 180 | 100 | 4 |
| 25 (1) | 127 | 110 | 14,7 | 79,4 | 15,9 | 4 | 220 | 197 | 125 | 6 |
| 32 (1 1/4) | 140 | 115 | 16,3 | 88,9 | 15,9 | 4 | 279 | 254 | 160 | 12 |
| 40 (1 1/2) | 165 | 125 | 17,9 | 98,4 | 15,9 | 4 | 279 | 254 | 160 | 12 |

[VAP] Rozměry Class 300
[VAP] Dimensions Class 300

Tabulka A.4.5
Table A.4.5

| DN (NPS) | FTF | D | b | Dk | d | n | H max | H min | Dt | m (kg) |
|-------------|--------|-----|------|-------|------|---|-------|-------|-----|--------|
| | ⌀ (mm) | | | | | | | | | |
| 15 (1/2) | 152 | 95 | 14,7 | 66,7 | 15,9 | 4 | 193 | 177 | 100 | 4,1 |
| 20 (3/4) | 178 | 115 | 16,3 | 82,6 | 19 | 4 | 198 | 180 | 100 | 4,4 |
| 25 (1) | 203 | 125 | 17,9 | 88,9 | 19 | 4 | 220 | 197 | 125 | 7,3 |
| 32 (1 1/4) | 216 | 135 | 19,5 | 98,4 | 19 | 4 | 279 | 254 | 160 | 11,9 |
| 40 (1 1/2) | 229 | 155 | 21,1 | 114,3 | 22,2 | 4 | 279 | 254 | 160 | 13,7 |

[VAP] Rozměry Class 600
[VAP] Dimensions Class 600

Tabulka A.4.6
Table A.4.6

| DN (NPS) | FTF | D | b | Dk | d | n | H max | H min | Dt | m (kg) |
|-------------|--------|-----|------|-------|------|---|-------|-------|-----|--------|
| | ⌀ (mm) | | | | | | | | | |
| 15 (1/2) | 165 | 95 | 21,3 | 66,7 | 15,9 | 4 | 193 | 177 | 100 | 6 |
| 20 (3/4) | 190 | 115 | 22,9 | 82,6 | 19 | 4 | 198 | 180 | 100 | 6,6 |
| 25 (1) | 216 | 125 | 24,5 | 88,9 | 19 | 4 | 220 | 197 | 125 | 7,5 |
| 32 (1 1/4) | 229 | 135 | 27,7 | 98,4 | 19 | 4 | 279 | 254 | 160 | 12,9 |
| 40 (1 1/2) | 241 | 155 | 29,3 | 114,3 | 22,2 | 4 | 279 | 254 | 160 | 15,5 |

[VAP] Rozměry Class 1500
[VAP] Dimensions Class 1500

Tabulka A.4.7
Table A.4.7

| DN (NPS) | FTF | D | b | Dk | d | n | H max | H min | Dt | m (kg) |
|-------------|--------|-----|------|-------|------|---|-------|-------|-----|--------|
| | ⌀ (mm) | | | | | | | | | |
| 15 (1/2) | 216 | 120 | 29,3 | 82,6 | 22,2 | 4 | 195 | 183 | 100 | 8,3 |
| 20 (3/4) | 229 | 130 | 32,4 | 88,9 | 22,2 | 4 | 212 | 197 | 100 | 11,5 |
| 25 (1) | 254 | 150 | 35,6 | 101,6 | 25,4 | 4 | 279 | 259 | 160 | 16 |
| 32 (1 1/4) | 279 | 160 | 35,6 | 111,1 | 25,4 | 4 | 279 | 259 | 160 | 17,5 |
| 40 (1 1/2) | 305 | 180 | 38,8 | 123,8 | 28,5 | 4 | 314 | 294 | 160 | 23,3 |

Rozsah použití
Range of application

Tabulka A.4.8
Table A.4.8

| Skupina materiálů (kód) | | Materiály | Class | Tlaková (bar) / teplotní (°C) zatížitelnost podle ANSI B16.34 a API 602 (Class 800) | | | | | | | | | | | | | | | | | | |
|-------------------------|--------------------|-----------|--|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|--|
| Material Group (Code) | Materials | Class | Pressure (bar) / temperature (°C) ratings according to ANSI B16.34 and API 602 (Class 800) | | | | | | | | | | | | | | | | | | | |
| | | | -29 + 38 | 50 | 100 | 150 | 200 | 250 | 300 | 325 | 350 | 375 | 400 | 425 | 450 | 475 | 500 | 538 | 550 | 575 | 600 | |
| 1.1 (12,14) | A 105 A 350 LF2 | 150 | 20 | 19 | 18 | 16 | 14 | 12 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 4 | 3 | 1 | | | | |
| | | 300 | 51 | 50 | 47 | 45 | 44 | 42 | 40 | 39 | 38 | 36 | 35 | 29 | 23 | 17 | 12 | 6 | | | | |
| | | 600 | 102 | 100 | 93 | 90 | 88 | 84 | 80 | 77 | 75 | 73 | 69 | 58 | 46 | 35 | 24 | 12 | | | | |
| | | 800 | 136 | 134 | 124 | 120 | 117 | 112 | 106 | 103 | 100 | 97 | 93 | 77 | 61 | 47 | 31 | 16 | | | | |
| | | 1500 | 255 | 251 | 233 | 225 | 219 | 210 | 199 | 194 | 188 | 182 | 174 | 144 | 115 | 87 | 59 | 30 | | | | |
| 1.9 (22) | A 182 F11 | 150 | 20 | 20 | 18 | 16 | 14 | 12 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 1 | 1(a) | 1(a) | 1(a) | | |
| | | 300 | 52 | 52 | 51 | 50 | 48 | 46 | 43 | 41 | 40 | 39 | 37 | 35 | 34 | 32 | 26 | 15 | 13 | 9 | 6 | |
| | | 600 | 103 | 103 | 103 | 100 | 96 | 93 | 86 | 83 | 80 | 78 | 73 | 70 | 68 | 63 | 52 | 30 | 25 | 18 | 12 | |
| | | 800 | 138 | 138 | 137 | 134 | 128 | 124 | 114 | 110 | 107 | 104 | 98 | 93 | 90 | 85 | 69 | 40 | 34 | 24 | 16 | |
| | | 1500 | 259 | 259 | 257 | 249 | 240 | 232 | 214 | 207 | 201 | 194 | 183 | 175 | 169 | 158 | 129 | 75 | 64 | 44 | 31 | |
| 1.10 (24) | A 182 F22 | 150 | 20 | 20 | 18 | 16 | 14 | 12 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 4 | 3 | 1 | 1(a) | 1(a) | 1(a) | |
| | | 300 | 52 | 52 | 52 | 50 | 49 | 46 | 43 | 41 | 40 | 39 | 37 | 35 | 34 | 32 | 28 | 18 | 16 | 11 | 7 | |
| | | 600 | 103 | 103 | 103 | 100 | 97 | 93 | 86 | 83 | 80 | 78 | 73 | 70 | 68 | 63 | 57 | 37 | 31 | 21 | 14 | |
| | | 800 | 138 | 138 | 137 | 134 | 130 | 124 | 114 | 110 | 107 | 104 | 98 | 93 | 90 | 85 | 75 | 49 | 42 | 28 | 18 | |
| | | 1500 | 259 | 259 | 258 | 251 | 243 | 232 | 214 | 207 | 201 | 194 | 183 | 175 | 169 | 158 | 141 | 92 | 78 | 53 | 34 | |
| 1.13 (26) | A 182 F5a | 150 | 20 | 20 | 18 | 16 | 14 | 12 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 4 | 3 | 1 | 1(a) | 1(a) | 1(a) | |
| | | 300 | 52 | 52 | 52 | 50 | 49 | 46 | 43 | 41 | 40 | 39 | 37 | 35 | 34 | 28 | 21 | 14 | 12 | 9 | 6 | |
| | | 600 | 103 | 103 | 103 | 100 | 97 | 93 | 86 | 83 | 80 | 78 | 73 | 70 | 68 | 56 | 43 | 27 | 24 | 18 | 13 | |
| | | 800 | 138 | 138 | 137 | 134 | 130 | 124 | 114 | 110 | 107 | 104 | 98 | 93 | 90 | 74 | 57 | 37 | 32 | 22 | 17 | |
| | | 1500 | 259 | 259 | 258 | 251 | 243 | 232 | 214 | 207 | 201 | 194 | 183 | 175 | 169 | 139 | 107 | 69 | 60 | 44 | 32 | |
| 1.15 (28) | A 182 F91 | 150 | 20 | 20 | 18 | 16 | 14 | 12 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 4 | 3 | 1 | 1(a) | 1(a) | 1(a) | |
| | | 300 | 52 | 52 | 52 | 50 | 49 | 46 | 43 | 41 | 40 | 39 | 37 | 35 | 34 | 32 | 28 | 25 | 25 | 24 | 20 | |
| | | 600 | 103 | 103 | 103 | 100 | 97 | 93 | 86 | 83 | 80 | 78 | 73 | 70 | 68 | 63 | 57 | 50 | 50 | 48 | 39 | |
| | | 800 | 138 | 138 | 137 | 134 | 130 | 124 | 114 | 110 | 107 | 104 | 98 | 93 | 90 | 85 | 75 | 67 | 67 | 64 | 52 | |
| | | 1500 | 259 | 259 | 258 | 251 | 243 | 232 | 214 | 207 | 201 | 194 | 183 | 175 | 169 | 158 | 141 | 126 | 125 | 120 | 98 | |
| 2.1 (40) | A 182 F304 | 150 | 19 | 18 | 16 | 14 | 13 | 12 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 4 | 3 | 1 | 1(a) | 1(a) | 1(a) | |
| | | 300 | 50 | 48 | 41 | 37 | 35 | 33 | 31 | 30 | 30 | 29 | 28 | 28 | 27 | 27 | 27 | 24 | 24 | 21 | 17 | |
| | | 600 | 99 | 96 | 82 | 74 | 69 | 65 | 62 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 49 | 47 | 42 | 34 | |
| | | 800 | 132 | 128 | 109 | 99 | 92 | 87 | 82 | 81 | 79 | 77 | 76 | 75 | 73 | 72 | 71 | 65 | 63 | 56 | 45 | |
| | | 1500 | 248 | 239 | 204 | 185 | 172 | 162 | 155 | 151 | 148 | 145 | 142 | 140 | 137 | 135 | 132 | 122 | 118 | 104 | 84 | |
| 2.2 (42) | A 182 F316 | 150 | 19 | 18 | 16 | 15 | 14 | 12 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 4 | 3 | 1 | 1(a) | 1(a) | 1(a) | |
| | | 300 | 50 | 48 | 42 | 39 | 36 | 33 | 32 | 31 | 30 | 30 | 29 | 29 | 29 | 29 | 28 | 25 | 25 | 24 | 20 | |
| | | 600 | 99 | 96 | 84 | 77 | 71 | 67 | 63 | 62 | 61 | 60 | 59 | 58 | 58 | 57 | 57 | 50 | 50 | 48 | 40 | |
| | | 800 | 132 | 128 | 113 | 103 | 95 | 89 | 84 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 67 | 67 | 64 | 53 | |
| | | 1500 | 248 | 241 | 211 | 193 | 178 | 170 | 158 | 154 | 152 | 149 | 147 | 146 | 144 | 143 | 141 | 126 | 125 | 120 | 100 | |
| 2.4 (44) | A 182 F321 | 150 | 19 | 19 | 17 | 16 | 14 | 12 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 4 | 3 | 1 | 1(a) | 1(a) | 1(a) | |
| | | 300 | 50 | 49 | 44 | 41 | 38 | 36 | 34 | 33 | 33 | 32 | 32 | 31 | 31 | 31 | 28 | 25 | 25 | 24 | 20 | |
| | | 600 | 99 | 97 | 89 | 82 | 77 | 72 | 68 | 67 | 65 | 64 | 63 | 62 | 62 | 61 | 57 | 50 | 50 | 48 | 41 | |
| | | 800 | 132 | 130 | 118 | 109 | 102 | 96 | 91 | 89 | 87 | 85 | 84 | 83 | 82 | 81 | 75 | 67 | 67 | 64 | 54 | |
| | | 1500 | 248 | 243 | 221 | 205 | 192 | 180 | 171 | 167 | 163 | 160 | 158 | 156 | 154 | 153 | 141 | 126 | 125 | 120 | 101 | |
| 2.5 (48) | A 182 F347 | 150 | 19 | 19 | 17 | 16 | 14 | 12 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 4 | 3 | 1 | 1(a) | 1(a) | 1(a) | |
| | | 300 | 50 | 49 | 45 | 43 | 40 | 38 | 36 | 35 | 35 | 34 | 34 | 34 | 34 | 32 | 28 | 25 | 25 | 24 | 22 | |
| | | 600 | 99 | 98 | 91 | 85 | 80 | 76 | 72 | 71 | 70 | 68 | 68 | 67 | 67 | 63 | 57 | 50 | 50 | 48 | 43 | |
| | | 800 | 132 | 130 | 121 | 113 | 107 | 101 | 96 | 94 | 93 | 91 | 90 | 90 | 89 | 85 | 75 | 67 | 67 | 64 | 57 | |
| | | 1500 | 248 | 244 | 227 | 212 | 200 | 189 | 180 | 177 | 174 | 171 | 170 | 168 | 167 | 158 | 141 | 126 | 125 | 120 | 107 | |

Volitelná provedení / Optional execution

