

PTFE-LINED BUTTERFLY VALVE T 214



Lug type valve for corrosive and aggressive media. The patented shaft seal design ensures reliability even with high-corrosive applications.

FEATURES

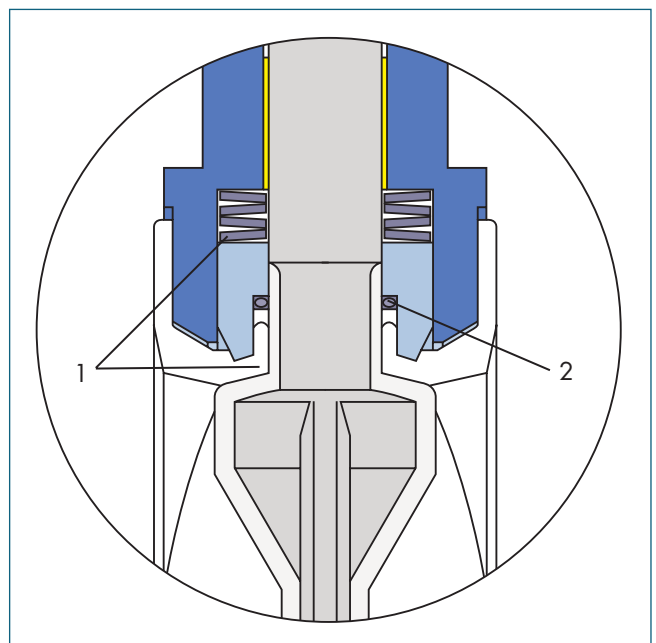
- PTFE-lined butterfly valve for chemically corrosive media
- Environmental protection via EBRO-safety seal
- Split body design
- Insulation height as per plant regulations
- Can be installed in any desired position.
- Maintenance free
- Can be disassembled, material-specific recycling possible.

GENERAL APPLICATIONS

- Chemically corrosive media
- Purification plants
- Pharmaceutical Industry
- Adhesives, Paper Industry, Fuel Transport
- Paint manufacture and processing
- Food Industry

TECHNICAL DATA

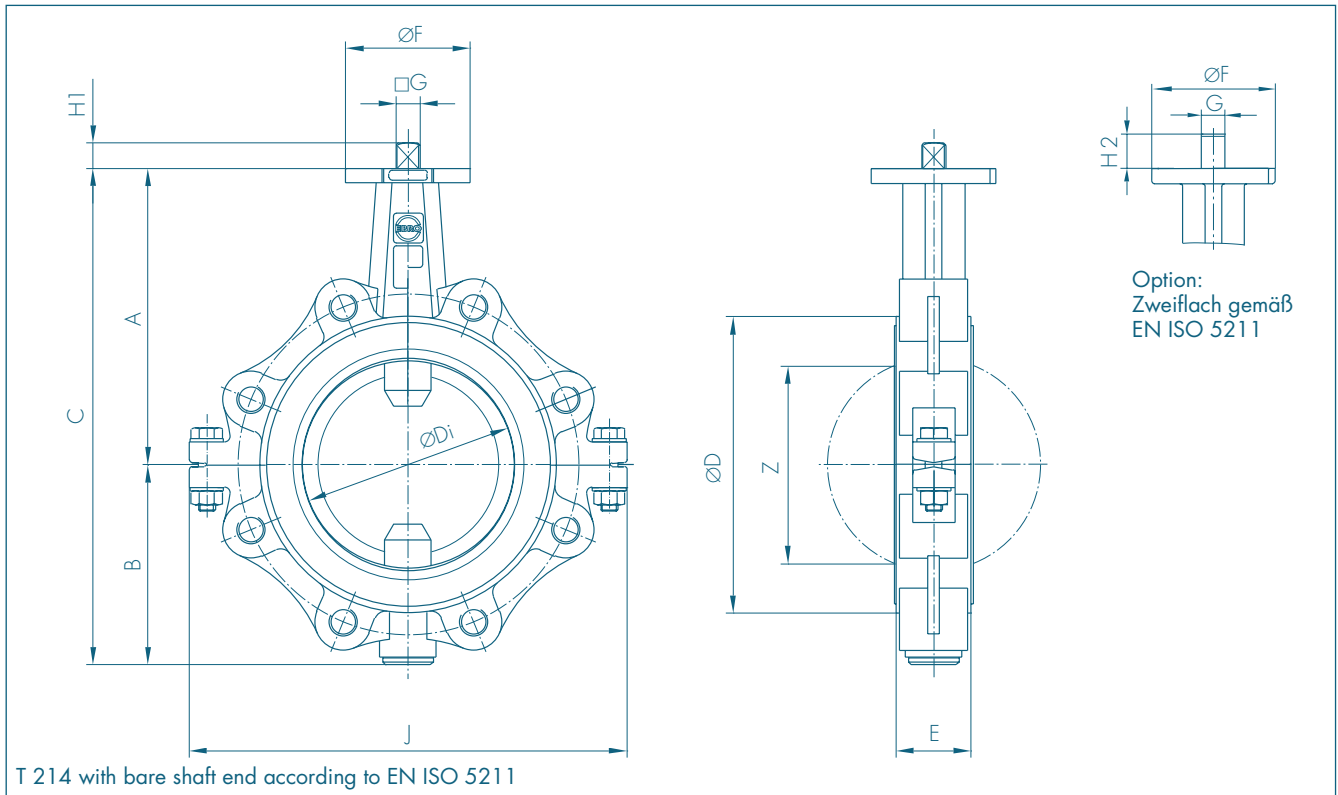
| | |
|------------------------|---|
| Nominal diameter: | DN 50 – DN 300 |
| Face-to-face: | EN 558 Series 20 (DIN 3202 T3 K1) ISO 5752 Series 20 API 609 Table 1 BS 5155, Tab. 6 Series 4 NF E 29-305.1 |
| Flange accommodation: | DIN 2501 PN 10/16 ANSI B 16.5, Class 150 MSS SP44 Class 150 AWWA C 207 AS 2129 Table D and E BS 10 Table D and E JIS B 2211-5 K JIS B 2212-10K |
| Flange Surface Design: | DIN 2526 Form A-E, ANSI B 16.5 RF |
| Top flange: | EN ISO 5211 NF E 29-402 |
| Marking: | DIN EN 19 |
| Tightness check: | DIN 3230 T3 BO (Leakage rate 1) ISO 5208, Category 3 API 598 Table 5 and ANSI B 16-104, Class VI |
| Temperature range: | -40 °C bis +200 °C (depending on operation pressure) |
| Operating pressure: | max. 10 bar (16 bar special version) |
| Differential pressure: | max. Δp 10 bar (16 bar special version) |
| Vacuum: | up to 1 mbar absolute from -10 °C to +160 °C |



Safety seal in accordance with the EBRO Twin Seal principle.

- 1) Primary sealing by means of a Belleville spring washer, transmitting prestress on the spherical segment area.
- 2) Secondary sealing of the shaft by means of PTFE-gaskets and O - Rings.

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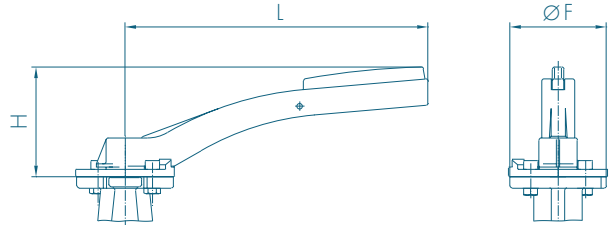
| DN [mm] | Size [in] | Dimensions [mm] | | | | | | | | | | | | | Weight [kg] |
|------------|--------------|-----------------|-----|-----|-----|-------|----|-----|--------|----|----|----|-----|-----|----------------|
| | | A | B | C | D | Di | E | F | Flange | G | H1 | H2 | J | Z | |
| 50 | 2 | 135 | 80 | 215 | 104 | 60,8 | 46 | 54 | F04 | 11 | 12 | 19 | 160 | 41 | 3,8 |
| 65 | 2½ | 150 | 82 | 232 | 104 | 60,8 | 46 | 54 | F04 | 11 | 12 | 19 | 176 | 41 | 4,5 |
| 80 | 3 | 157 | 108 | 265 | 130 | 79,5 | 46 | 65 | F05 | 14 | 16 | 25 | 230 | 66 | 6,2 |
| 100 | 4 | 180 | 118 | 298 | 160 | 99,0 | 52 | 65 | F05 | 14 | 16 | 25 | 255 | 85 | 9,7 |
| 125 | 5 | 195 | 130 | 325 | 190 | 124,5 | 56 | 90 | F07 | 17 | 19 | 25 | 290 | 112 | 12,0 |
| 150 | 6 | 210 | 142 | 352 | 210 | 150,5 | 56 | 90 | F07 | 17 | 19 | 30 | 310 | 141 | 13,5 |
| 200 | 8 | 240 | 169 | 409 | 268 | 195,5 | 60 | 90 | F07 | 17 | 19 | 30 | 390 | 187 | 22,0 |
| 250 | 10 | 275 | 217 | 492 | 324 | 247,5 | 68 | 125 | F10 | 22 | 24 | 39 | 480 | 239 | 37,0 |
| 300 | 12 | 300 | 240 | 540 | 374 | 292,5 | 78 | 125 | F10 | 22 | 24 | 39 | 550 | 283 | 55,0 |

Subject to change without notice.

ACTUATORS T 214

HAND LEVER

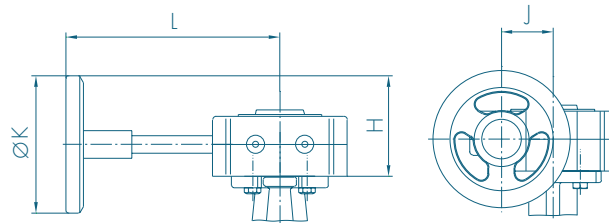
| DN [mm] | Size [in] | Hand Lever | F | H | L | Weight [kg] |
|---------|-----------|------------|----|-----|-----|-------------|
| 50- 65 | 2-2 1/2 | Size II | 54 | 80 | 195 | 0,15 |
| 80-100 | 3-4 | Size III | 65 | 100 | 276 | 0,50 |
| 125 | 5 | Size III | 90 | 100 | 276 | 0,50 |



WORM GEAR

| DN [mm] | Size [in] | Gear | H | J | K | L | Weight [kg] |
|---------|-----------|----------|-----|----|-----|-----|-------------|
| 50-100 | 2- 4 | Size II | 89 | 39 | 125 | 159 | 1,4 |
| 125-150 | 5- 6 | Size III | 129 | 47 | 200 | 202 | 2,3 |
| 200-250 | 8-10 | Size IV | 129 | 60 | 200 | 252 | 2,8 |
| 300 | 12 | Size V | 158 | 76 | 250 | 280 | 6,3 |

The dimensioning of actuators refers to an operating pressure of 10 bar.

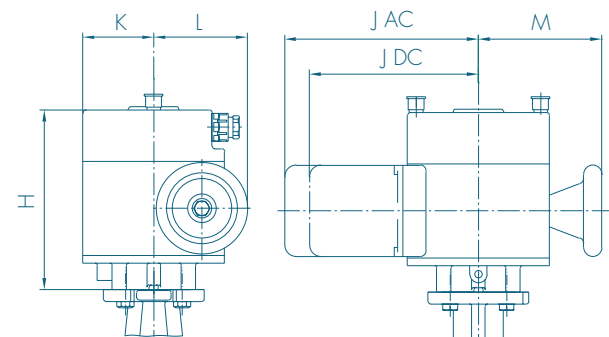


ELECTRIC ACTUATOR

| DN [mm] | Size [in] | Actuator Type | H | J/DC | J/AC | K | L | M | Weight [kg] |
|---------|-----------|---------------|-----|------|------|-----|-----|-----|-------------|
| 50- 80 | 2- 3 | E 60 | 158 | 171 | 171 | 62 | 82 | 110 | 5,0 |
| 100-250 | 4-10 | E 100 | 183 | 206 | 246 | 74 | 121 | 131 | 11,5 |
| 300-400 | 12-16 | E 150 | 200 | 238 | 278 | 105 | 189 | 155 | 21,0 |

AC = Alternating current
DC = Three phase current

The dimensioning of actuators refers to an operating pressure of 10 bar.



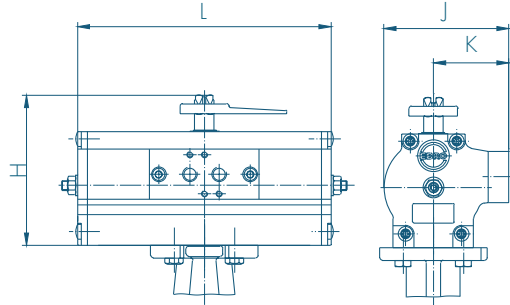
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ACTUATORS T 214

PNEUMATIC DOUBLE ACTING

| DN [mm] | Size [in] | Actuator Type | H | J | K | L | Weight [kg] |
|---------|-----------|---------------|-----|-----|----|-----|-------------|
| 50- 80 | 2- 3 | EB 5 | 108 | 88 | 55 | 174 | 1,7 |
| 100-125 | 4- 5 | EB 6 | 123 | 103 | 62 | 208 | 2,6 |
| 150-200 | 6- 8 | EB 8 | 136 | 115 | 68 | 250 | 4,3 |
| 250-300 | 10-12 | EB 10 | 155 | 135 | 79 | 312 | 6,8 |

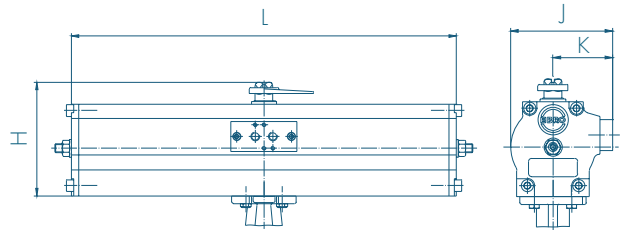
The dimensioning of actuators refers to an operating pressure of 10 bar and a control air pressure of 6 bar.



PNEUMATIC SPRING RETURN

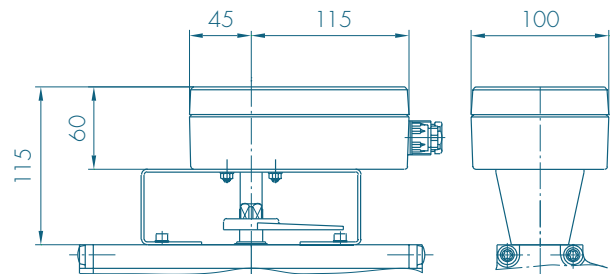
| DN [mm] | Size [in] | EBF Actuator | H | J | K | L | Weight [kg] |
|---------|-----------|--------------|-----|-----|----|-----|-------------|
| 50- 80 | 2-3 | EB 6 | 123 | 103 | 62 | 326 | 5,0 |
| 100 | 4 | EB 8 | 136 | 115 | 68 | 389 | 7,7 |
| 125-200 | 5-8 | EB 10 | 155 | 135 | 79 | 526 | 14,3 |
| 250 | 10 | EB 12 | 182 | 159 | 94 | 658 | 25,4 |
| 300 | 12 | EB 265 | 232 | 152 | 76 | 634 | 27,0 |

The dimensioning of actuators refers to an operating pressure of 10 bar and a control air pressure of 6 bar.



SWITCH BOX SERIES MSK/NSK

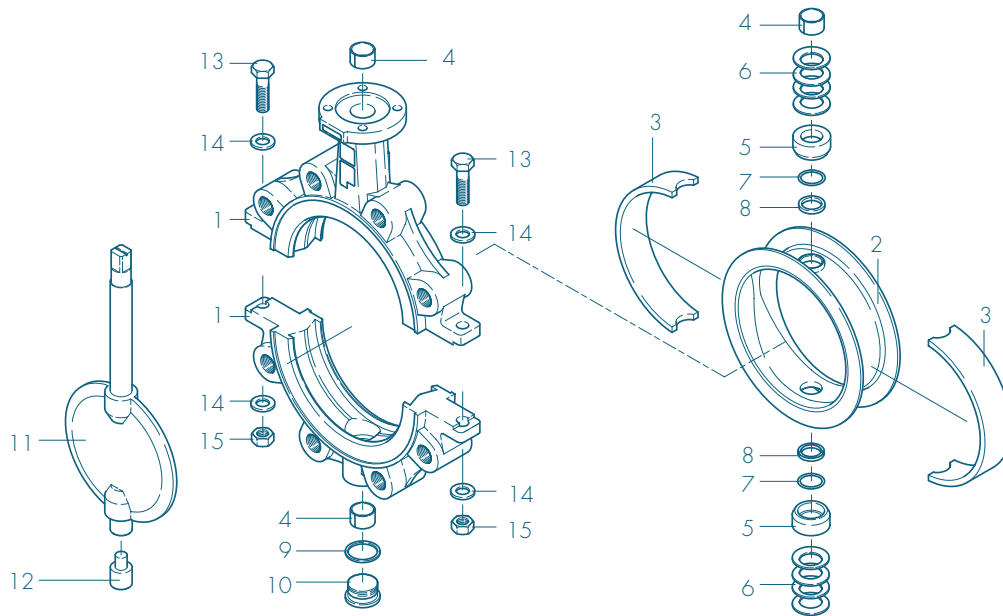
MSK: Switch Box with integrated micro limit switches.
NSK: Switch Box with integrated proximity switches.



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MATERIAL SPECIFICATION AND PARTS LIST



PTFE-lined butterfly Valve DN 80–200

| Pt. | Description | Material | Material-No. | ASTM | Pt. | Description | Material | Material-No. | ASTM |
|-----------|---------------------------|-------------------------------|-----------------|----------|-----------|-------------------------|-----------------------|---------------|-------------------------------|
| 1 | Body | | | | 11 | Disc/Shaft | | | |
| | Nodular Cast Iron | GGG-40.3 | 0.7043 | 60-40-18 | | St. Steel/St. Steel | G-X2CrNiMoN26-7-4 | 1.4462/1.4469 | F 51 |
| 2 | Seat | | | | | St/PTFE coated | St 52.3 | 1.4462/PTFE | A 572-50 |
| | PTFE | Polytetrafluorethylen | PTFE | PTFE | | | Polytetrafluorethylen | PTFE | PTFE |
| 3 | Elastomer Insert | | | | 12 | Lower shaft stub | | | |
| | Silicon Rubber | MVQ | VMQ | | | Stainless Steel | X39CrMo17-1 | 1.4122 | |
| | EPDM | Ethylene propylene caoutchouc | EPDM | EPDM | | | X2CrNiMoN 22-5-3 | 1.4462 | F 51 |
| | FPM | Fluorocarbon caoutchouc | | | 13 | Screw | | | |
| | | | | | | Stainless Steel | A4-70 | 1.4401 | B8M |
| 4 | DU-Bearing | | | | | | | 1.4571 | |
| | Steel/PTFE coated | | | | 14 | Washer | | | |
| | | | | | | Stainless Steel | X5CrNiMo 17-12-2 | 1.4401 | 316 |
| 5 | Thrust Collar | | | | 15 | Hex. nut | | | |
| | Stainless Steel | X5CrNiMo 17-12-2 | 1.4401 | 316 | | Stainless Steel | A4-70 | 1.4401 | 8M |
| 6 | Bellev.Spr.Washer | | | | | | A4-70 | 1.4571 | B8M |
| | Stainless Steel | X12CrNi177 | 1.4310 | 301 | | | | | |
| 7 | O-ring | | | | | | | | |
| | Viton | Fluorocarbon caoutchouc | FPM | FKM | | | | | |
| 8 | Chevron Seal | | | | | | | | |
| | PTFE | Polytetrafluorethylen | PTFE | PTFE | | | | | |
| 9 | Ring Seal | | | | | | | | |
| | Stainless Steel | X5CrNi 18-10 | 1.4301 | 304 | | | | | |
| 10 | Plug Screw DIN 908 | | | | | | | | |
| | Machining Steel | 11SMnPb30 | 1.0718 ni.-pld. | SAE12L14 | | | | | |
| | Stainless Steel | G-X6CrNiMo 18-10 | | CF8M | | | | | |
| | | | | | | | | | Other materials upon request. |

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TORQUE

- The torque values specified (MD) are based on dry media and are measured with air at a temperature of 20 °C.

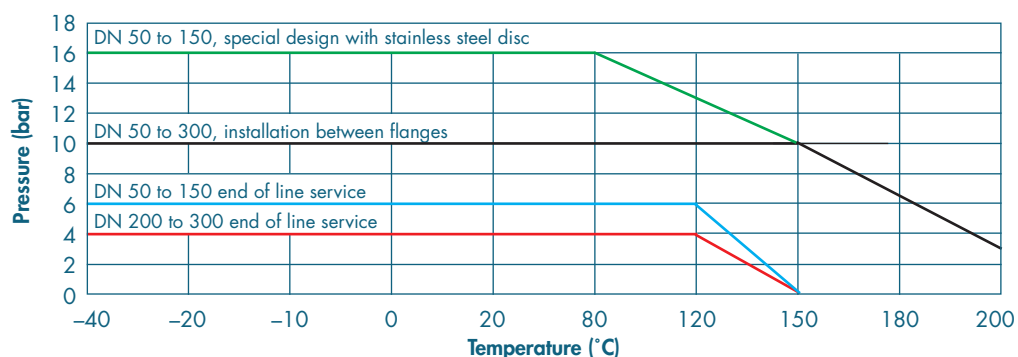
- The values specified are based on the initial breakaway torque (disc disengages from seat, torque then drops).

- Dynamic torque specification available upon request.

Regarding the dimensioning of actuators, please contact our engineers.

| DN [mm] | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|-----------|----|----|----|-----|-----|-----|-----|-----|-----|
| Size [in] | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| MD [Nm] | 40 | 40 | 70 | 95 | 130 | 170 | 230 | 350 | 480 |

PRESSURE/TEMPERATURE DIAGRAM*



vacuum service to 1mbar, from -10 °C up to 160 °C

* For valves with silicone elastomer inserts.

K_V-VALUES

- The K_V-value (m³per hour) is the flow of water at a temperature of 5 °C to 30 °C (41°F to 86°F) at Δp of 1 bar.

- The K_V-values specified are based on tests carried out by the Delfter Hydraulics Laboratories, the Netherlands.

- Permissible velocity of flow
V_{max} 4,5 m/s for liquids and
V_{max} 70 m/s for gases.

- The throttle function is linear at an angle 30° to 70°.

- Avoid cavitation!

For further values, please contact our engineers.

| DN [mm] | Size [in] | Opening angle α° | | | | | | | |
|--------------------------------------|-----------|------------------|-----|-----|------|------|------|------|-------|
| | | 20° | 30° | 40° | 50° | 60° | 70° | 80° | 90° |
| 1) K _V -Values metal disc | | | | | | | | | |
| 50 | 2 | 1 | 8 | 24 | 50 | 70 | 100 | 140 | 210 |
| 65 | 2½ | 1 | 8 | 24 | 50 | 70 | 100 | 140 | 210 |
| 80 | 3 | 1,2 | 15 | 44 | 95 | 124 | 180 | 300 | 520 |
| 100 | 4 | 8 | 25 | 60 | 170 | 210 | 280 | 540 | 980 |
| 125 | 5 | 15 | 52 | 125 | 250 | 350 | 520 | 840 | 1400 |
| 150 | 6 | 35 | 95 | 190 | 350 | 460 | 850 | 1300 | 2300 |
| 200 | 8 | 69 | 253 | 457 | 729 | 1110 | 1783 | 2570 | 3020 |
| 250 | 10 | 120 | 380 | 690 | 1200 | 1680 | 2650 | 4500 | 6600 |
| 300 | 12 | 165 | 504 | 937 | 1512 | 2275 | 3795 | 6810 | 12800 |
| 2) K _V -Values PTFE-disc | | | | | | | | | |
| 50 | 2 | 1,5 | 12 | 28 | 52 | 70 | 96 | 110 | 150 |
| 65 | 2½ | 1,5 | 12 | 28 | 52 | 70 | 96 | 110 | 150 |
| 80 | 3 | 2,5 | 20 | 48 | 88 | 118 | 160 | 200 | 250 |
| 100 | 4 | 12 | 32 | 68 | 170 | 210 | 260 | 500 | 780 |
| 125 | 5 | 18 | 60 | 135 | 260 | 380 | 480 | 790 | 1250 |
| 150 | 6 | 45 | 105 | 205 | 370 | 490 | 720 | 1250 | 2200 |
| 200 | 8 | 88 | 297 | 520 | 695 | 1130 | 1700 | 2500 | 2700 |
| 250 | 10 | 148 | 430 | 695 | 1250 | 1800 | 2520 | 4350 | 5400 |
| 300 | 12 | 263 | 557 | 960 | 1560 | 2450 | 4300 | 6700 | 9400 |

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