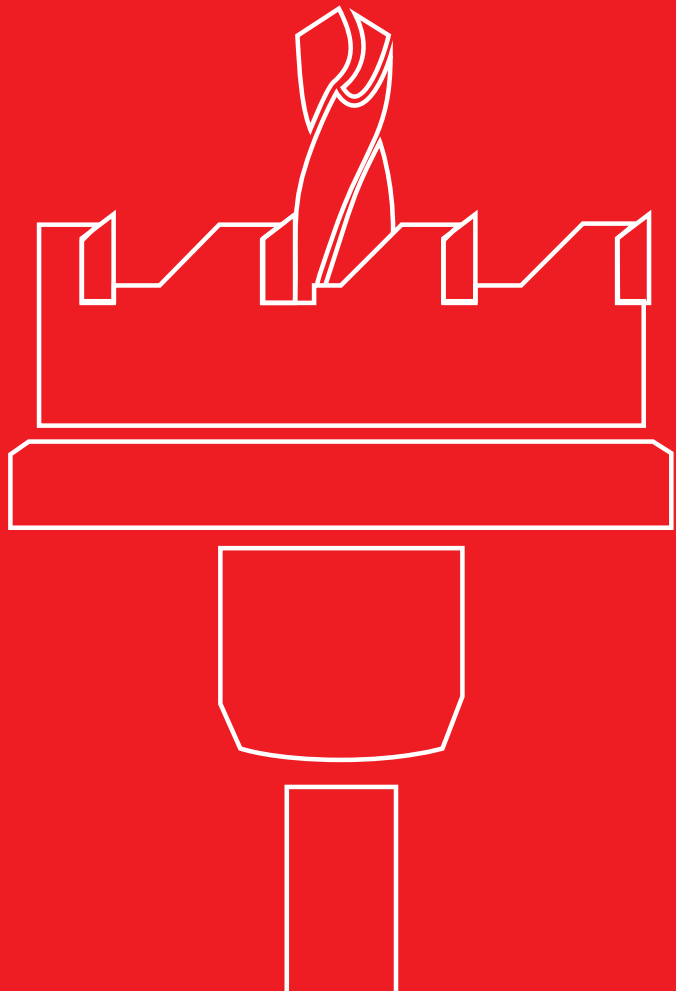














10



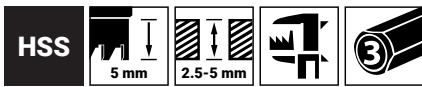
HOLE SAWS

| | |
|---|-----------|
| Type and applications overview | 244 – 245 |
| HSS hole saw + accessories | 246 |
| Tungsten carbide multigrade hole saw + accessories | 247 |
| Tungsten carbide hole saw, shallow cut + accessories | 248 – 249 |
| Bi-metal hole saws HSSE-Co 8 with fine tothing | 250 |
| Bi-metal hole saws HSS with varied tothing | 251 |
| Bi-metal hole saw sets HSSE-Co 8 with fine tothing + HSS with varied tothing | 252 |
| Arbor holders including pilot drill for bi-metal hole saws HSS + HSSE-Co 8 | 254 |
| Accessories for bi-metal hole saws HSS + HSSE-Co 8 | 254 |
| Arbor holders for tungsten carbide multigrade hole saws with threaded retainer M18 x 6 P1,5 | 255 |
| Adapter for tungsten carbide multigrade hole saws with threaded retainer M18 x 6 P1,5 | 255 |
| Recommended cutting speeds – <i>for tungsten carbide hole saws</i> | 256 |
| Recommended cutting speeds – <i>for bi-metal hole saws HSS and HSSE-Co 8</i> | 257 |

Type and applications overview

| | Surface | Cutting edges | Ø tolerance | Cutting depth | Material thickness | Shank | Ø mm | Item no. | Page/s |
|---|---------|---------------|---|---|---|--|--------------------|----------|-----------|
|  | Blank | HSS |  |  |  |  | 12,0 - 80,0 | 128 xxx | 246 |
|  | Blank | TC HM |  |  |  |  | 15,0 - 100,0 | 113 xxx | 247 |
|  | Blank | TC HM |  |  |  |  | 16,0 - 120,0 | 105 xxx | 248 – 249 |
|  | | HSSE Co8 | |  |  |  | 14,0 - 210,0 | 126 xxx | 250 |
|  | | HSS | |  |  |  | 14,0 - 210,0 | 106 xxx | 251 |

| Structural steel < 900 N/mm ² | Inox <1100 N/mm ² | High strength steel <1300 N/mm ² | Aluminium | Brass | Bronze | Plastics | Cast iron |
|---|---------------------------------|--|-----------|-------|--------|----------|-----------|
| ● | | | ● | ● | ○ | ○ | ○ |
| ● | ● | ● | ● | ● | ○ | ○ | ● |
| ● | ● | ● | ● | ● | ○ | ○ | ● |
| ● | ● | | ● | ● | ○ | ○ | |
| ● | | | ● | ● | ○ | ○ | |



Hole saw HSS



Packaging: cardboard box

| Ø1 mm | Ø inch | PG | Tube dimensions inch | Ø2 mm | HSS | |
|-------|--------|------|----------------------|-------|---------|---|
| 12.0 | 15/32 | | | 8.0 | 128 012 | 1 |
| 13.0 | | | | 8.0 | 128 013 | 1 |
| 14.0 | 9/16 | | | 8.0 | 128 014 | 1 |
| 15.0 | | | | 10.0 | 128 015 | 1 |
| 16.0 | 5/8 | PG 9 | | 10.0 | 128 016 | 1 |
| 17.0 | | | | 10.0 | 128 017 | 1 |
| 18.0 | | | | 10.0 | 128 018 | 1 |
| 19.0 | 3/4 | | 3/8 | 10.0 | 128 019 | 1 |
| 20.0 | | | | 10.0 | 128 020 | 1 |
| 21.0 | | | | 10.0 | 128 021 | 1 |
| 22.0 | | | 1/2 | 10.0 | 128 022 | 1 |
| 23.0 | | | | 10.0 | 128 023 | 1 |
| 24.0 | 15/16 | | | 10.0 | 128 024 | 1 |
| 25.0 | | | | 10.0 | 128 025 | 1 |
| 26.0 | | | | 10.0 | 128 026 | 1 |
| 27.0 | 1 1/16 | | | 10.0 | 128 027 | 1 |
| 28.0 | 1 3/32 | | | 10.0 | 128 028 | 1 |
| 29.0 | | | 3/4 | 10.0 | 128 029 | 1 |
| 30.0 | 1 3/16 | | | 10.0 | 128 030 | 1 |
| 31.0 | 1 7/32 | | | 10.0 | 128 031 | 1 |
| 32.0 | 1 1/4 | | | 10.0 | 128 032 | 1 |
| 33.0 | | | | 10.0 | 128 033 | 1 |
| 34.0 | | | | 10.0 | 128 034 | 1 |

| Ø1 mm | Ø inch | PG | Tube dimensions inch | Ø2 mm | HSS | |
|-------|---------|-------|----------------------|-------|---------|---|
| 35.0 | 1 3/8 | | 1 | 10.0 | 128 035 | 1 |
| 36.0 | | | | 10.0 | 128 036 | 1 |
| 37.0 | 1 7/16 | PG 29 | | 10.0 | 128 037 | 1 |
| 38.0 | 1 1/2 | | | 10.0 | 128 038 | 1 |
| 39.0 | | | | 10.0 | 128 039 | 1 |
| 40.0 | 1 9/16 | | | 10.0 | 128 040 | 1 |
| 41.0 | 1 5/8 | | | 10.0 | 128 041 | 1 |
| 42.0 | | | | 10.0 | 128 042 | 1 |
| 43.0 | 1 11/16 | | | 10.0 | 128 043 | 1 |
| 44.0 | 1 3/4 | | 1 1/4 | 10.0 | 128 044 | 1 |
| 45.0 | | | | 10.0 | 128 045 | 1 |
| 46.0 | | | | 10.0 | 128 046 | 1 |
| 47.0 | 1 7/8 | PG 36 | | 10.0 | 128 047 | 1 |
| 48.0 | | | | 10.0 | 128 048 | 1 |
| 49.0 | | | | 10.0 | 128 049 | 1 |
| 50.0 | 1 31/32 | | | 10.0 | 128 050 | 1 |
| 55.0 | | | | 12.0 | 128 055 | 1 |
| 60.0 | 2 3/8 | PG 48 | | 12.0 | 128 060 | 1 |
| 65.0 | | | | 12.0 | 128 065 | 1 |
| 70.0 | 2 3/4 | | | 12.0 | 128 070 | 1 |
| 75.0 | | | | 12.0 | 128 075 | 1 |
| 80.0 | | | | 12.0 | 128 080 | 1 |



Accessories

Packaging: plastic

Holder including guide drill.

| For hole saws Ø mm | Shank Ø mm | suitable for magnetic drilling machine | HSS | |
|--------------------|------------|--|---------|---|
| 12.0 - 14.0 | 8.0 | A10 | 128 211 | 1 |
| 15.0 - 34.0 | 10.0 | | 128 212 | 1 |
| 35.0 - 50.0 | 10.0 | RU25 RU40 | 128 213 | 1 |
| 51.0 - 100.0 | 12.0 | | 128 214 | 1 |

| | for hole saws Ø mm | HSS | |
|---------------------------|--------------------|---------|---|
| Pilot pin Ø 6,0 x 52,0 mm | 12.0 - 100.0 | 128 215 | 1 |
| Ejector spring | Ø > 20.0 | 128 216 | 1 |



128 ...



128 215



128 216



Tungsten carbide multigrade hole saw



Adapter: thread M 18 x 6 P1,5

Ø 15.0 up to 30.0 mm hole saw MHS and shank in one piece. Complete with pilot pin and wrench.
 Ø 31.0 up to 100.0 mm hole saws MHS without arbor.



! For tungsten carbide multigrade hole saws Ø 65.0 bis 100.0 mm we recommend to use our morse taper holder item no. 113 203, 108 104, 108 105.

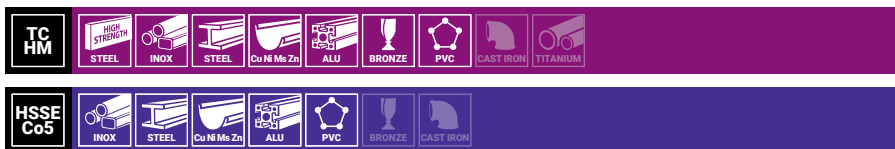
Packaging: plastic tube

| Ø1 mm | Ø inch | Tube dimensions inch | Ø2 mm | TC / HM | | Ø1 mm | Ø inch | Tube dimensions inch | Ø2 mm | TC / HM | |
|-------|--------|----------------------|---------------|---------|---|-------|---------|----------------------|---------------|---------|---|
| 15.0 | 19/32 | | 13.0 | 113 015 | 1 | 34.0 | 1 11/32 | | 13.0 / MT 2/3 | 113 034 | 1 |
| 16.0 | 5/8 | | 13.0 | 113 016 | 1 | 35.0 | 1 3/8 | 1 | 13.0 / MT 2/3 | 113 035 | 1 |
| 17.0 | 11/16 | | 13.0 | 113 017 | 1 | 36.0 | 1 1/4 | | 13.0 / MT 2/3 | 113 036 | 1 |
| 18.0 | 45/64 | | 13.0 | 113 018 | 1 | 38.0 | 1 1/2 | | 13.0 / MT 2/3 | 113 038 | 1 |
| 19.0 | 3/4 | 3/8 | 13.0 | 113 019 | 1 | 40.0 | 1 9/16 | | 13.0 / MT 2/3 | 113 040 | 1 |
| 20.0 | 25/32 | | 13.0 | 113 020 | 1 | 42.0 | 1 21/32 | | 13.0 / MT 2/3 | 113 042 | 1 |
| 21.0 | 13/16 | | 13.0 | 113 021 | 1 | 44.0 | 1 3/4 | 1 1/4 | 13.0 / MT 2/3 | 113 044 | 1 |
| 22.0 | 7/8 | 1/2 | 13.0 | 113 022 | 1 | 45.0 | - | | 13.0 / MT 2/3 | 113 045 | 1 |
| 23.0 | 29/32 | | 13.0 | 113 023 | 1 | 50.0 | 1 31/32 | | 13.0 / MT 2/3 | 113 050 | 1 |
| 24.0 | 15/16 | | 13.0 | 113 024 | 1 | 55.0 | 2 11/64 | | 13.0 / MT 2/3 | 113 055 | 1 |
| 25.0 | 1 | | 13.0 | 113 025 | 1 | 60.0 | 2 3/8 | | 13.0 / MT 2/3 | 113 060 | 1 |
| 26.0 | 1 1/32 | | 13.0 | 113 026 | 1 | 65.0 | 2 9/16 | | 13.0 / MT 2/3 | 113 065 | 1 |
| 27.0 | 1 1/16 | | 13.0 | 113 027 | 1 | 68.0 | 2 11/16 | | 13.0 / MT 2/3 | 113 068 | 1 |
| 28.0 | 1 3/32 | | 13.0 | 113 028 | 1 | 70.0 | 2 3/4 | | 13.0 / MT 2/3 | 113 070 | 1 |
| 29.0 | 1 1/8 | 3/4 | 13.0 | 113 029 | 1 | 75.0 | 2 61/64 | | 13.0 / MT 2/3 | 113 075 | 1 |
| 30.0 | 1 3/16 | | 13.0 | 113 030 | 1 | 80.0 | 3 5/32 | | 13.0 / MT 2/3 | 113 080 | 1 |
| 32.0 | 1 1/4 | | 13.0 / MT 2/3 | 113 032 | 1 | 100.0 | 3 15/16 | | 13.0 / MT 2/3 | 113 100 | 1 |



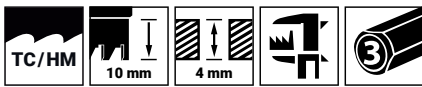
Accessories

Packaging: plastic



| | for hole saws Ø mm | TC / HM | | HSSE-Co 5 | |
|---------------------------|--------------------|---------|---|-----------|---|
| Pilot pin Ø 6.0 x 80.0 mm | 15.0 - 150.0 | 113 217 | 1 | - | 1 |
| Pilot pin Ø 6.0 x 72.0 mm | 15.0 - 150.0 | - | 1 | 113 216 | 1 |

| | | | | | |
|----------------|--|--|--|---------|---|
| Ejector spring | | | | 113 218 | 1 |
|----------------|--|--|--|---------|---|



Tungsten carbide hole saw, shallow cut



Hole saw and holder made from one piece.
Guide drill included.

Packaging: cardboard box

| Ø1 mm | Ø inch | M + PG | Tube dimensions inch | Ø2 mm | TC / HM | |
|-------|---------|----------------|----------------------|-------|---------|---|
| 16.0 | 5/8 | ~ PG 9 | | 10.0 | 105 016 | 1 |
| 16.5 | - | M 16 | | 10.0 | 105 165 | 1 |
| 17.0 | 11/16 | | | 10.0 | 105 017 | 1 |
| 18.0 | 45/64 | | | 10.0 | 105 018 | 1 |
| 18.6 | 47/64 | PG 11 | | 10.0 | 105 186 | 1 |
| 19.0 | 3/4 | | 3/8 | 10.0 | 105 019 | 1 |
| 20.0 | 25/32 | | | 10.0 | 105 020 | 1 |
| 20.4 | - | M 20 / PG 13.5 | | 10.0 | 105 204 | 1 |
| 21.0 | 13/16 | | | 10.0 | 105 021 | 1 |
| 22.0 | 7/8 | | 1/2 | 10.0 | 105 022 | 1 |
| 22.5 | - | PG 16 | | 10.0 | 105 225 | 1 |
| 23.0 | 29/32 | | | 10.0 | 105 023 | 1 |
| 24.0 | 15/16 | | | 10.0 | 105 024 | 1 |
| 25.0 | 1" | | | 10.0 | 105 025 | 1 |
| 25.5 | - | M 25 | | 10.0 | 105 255 | 1 |
| 26.0 | 1 1/32 | | | 10.0 | 105 026 | 1 |
| 27.0 | 1 1/16 | | | 10.0 | 105 027 | 1 |
| 28.0 | 1 3/32 | | | 10.0 | 105 028 | 1 |
| 28.3 | 1 1/8 | PG 21 | | 10.0 | 105 283 | 1 |
| 29.0 | 1 1/8 | | 3/4 | 10.0 | 105 029 | 1 |
| 30.0 | 1 3/16 | | | 10.0 | 105 030 | 1 |
| 32.0 | 1 1/4 | | | 10.0 | 105 032 | 1 |
| 32.5 | - | M 32 | | 10.0 | 105 325 | 1 |
| 34.0 | 1 11/32 | | | 10.0 | 105 034 | 1 |
| 35.0 | 1 3/8 | | 1 | 10.0 | 105 035 | 1 |
| 36.0 | 1 1/4 | | | 10.0 | 105 036 | 1 |
| 37.0 | 1 7/16 | PG 29 | | 10.0 | 105 037 | 1 |
| 38.0 | 1 1/2 | | | 10.0 | 105 038 | 1 |

| Ø1 mm | Ø inch | M + PG | Tube dimensions inch | Ø2 mm | TC / HM | |
|-------|---------|---------|----------------------|-------|---------|---|
| 40.0 | 1 9/16 | | | 10.0 | 105 040 | 1 |
| 40.5 | - | M 40 | | 10.0 | 105 405 | 1 |
| 41.0 | 1 5/8 | | | 10.0 | 105 041 | 1 |
| 42.0 | 1 21/32 | | | 10.0 | 105 042 | 1 |
| 43.0 | 1 11/16 | | | 10.0 | 105 043 | 1 |
| 44.0 | 1 3/4 | | 1 1/4 | 10.0 | 105 044 | 1 |
| 45.0 | 1 25/32 | | | 10.0 | 105 045 | 1 |
| 48.0 | 1 29/32 | | | 10.0 | 105 048 | 1 |
| 50.0 | 1 31/32 | | | 10.0 | 105 050 | 1 |
| 50.5 | - | M 50 | | 10.0 | 105 505 | 1 |
| 51.0 | 2 | | 1 1/2 | 13.0 | 105 051 | 1 |
| 52.0 | 2 1/16 | | | 13.0 | 105 052 | 1 |
| 54.0 | 2 1/8 | PG 42 | | 13.0 | 105 054 | 1 |
| 55.0 | 2 11/64 | | | 13.0 | 105 055 | 1 |
| 57.0 | 2 1/4 | | | 13.0 | 105 057 | 1 |
| 60.0 | 2 3/8 | ~ PG 48 | | 13.0 | 105 060 | 1 |
| 63.5 | 2 1/2 | M 63 | 2 | 13.0 | 105 635 | 1 |
| 65.0 | 2 9/16 | | | 13.0 | 105 065 | 1 |
| 68.0 | 2 11/16 | | | 13.0 | 105 068 | 1 |
| 70.0 | 2 3/4 | | | 13.0 | 105 070 | 1 |
| 75.0 | 2 61/64 | | | 13.0 | 105 075 | 1 |
| 80.0 | 3 5/32 | | | 13.0 | 105 080 | 1 |
| 85.0 | 3 11/32 | | | 13.0 | 105 085 | 1 |
| 90.0 | 3 35/64 | | | 13.0 | 105 090 | 1 |
| 95.0 | 3 3/4 | | | 13.0 | 105 095 | 1 |
| 100.0 | 3 15/16 | | | 13.0 | 105 100 | 1 |
| 110.0 | 4 11/32 | | | 13.0 | 105 110 | 1 |
| 120.0 | 4 23/32 | | | 13.0 | 105 120 | 1 |

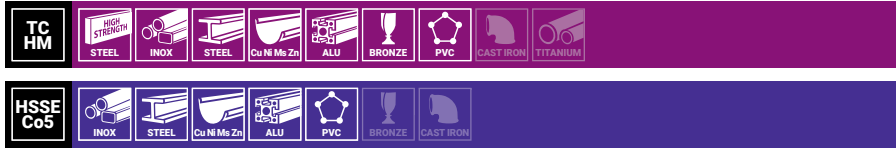


| | | HSSE-Co 5 |
|--------------------|--|-----------|
| 5 tfg./pcs. | Tungsten carbide hole saw set Ø 20.0 22.0 25.0 32.0 35.0 mm + 1 cutting paste 40 ml item no. 101 021 + 1 pilot drill 6.0 mm HSSE-Co 5 item no.105 170 | 105 300 |
| 4 tfg./pcs. | Tungsten carbide hole saw set Ø 16.5 20.4 25.5 32.5 mm + 1 cutting paste 40 ml item no. 101 021 + 1 pilot drill 6.0 mm HSSE-Co 5 item no.105 170 | 105 302 |



Accessories

Packaging: plastic tube



| | for hole saws Ø mm | TC / HM | | HSSE-Co 5 | |
|---------------------------|-----------------------|---------|---|-----------|---|
| Pilot pin Ø 6.0 x 52.0 mm | 16.0 - 70.0 | 105 172 | 1 | 105 170 | 1 |
| Pilot pin Ø 6.0 x 52.0 mm | 75.0 - 150.0 | 105 173 | 1 | 105 171 | 1 |

| Ejector spring | | 105 174 | 1 |
|----------------|--|---------|---|



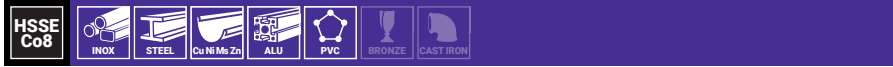
Application tip

If possible, do not use automatic feed motion, since otherwise the risk of fracture increases. Unsuitable for percussion-drill operation, only slight pressure required to start drilling. Avoid pendulum movements while drilling and use prescribed cooling agents.





Bi-metal hole saw HSSE-Co 8 with fine toothing



Particularly suitable for cutting metals. For smoother running and less effort. Increased service life due to lower heat generation.

Body: Special steel

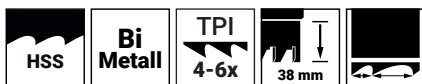


Best results up to max. 5 mm.

Packaging: cardboard box

| Ø1 mm | Ø inch | M + PG | Pipe dimensions inch | for holder | HSSE-Co 8 | |
|----------|-----------|-----------|-------------------------|---------------|------------------|---|
| 14.0 | 9/16 | | | A1 / A4 / A5 | 126 014 | 1 |
| 16.0 | 5/8 | ~ PG 9 | | | 126 016 | |
| 17.0 | 11/16 | | | | 126 017 | |
| 19.0 | 3/4 | ~ PG 11 | 3/8 | | 126 019 | |
| 20.0 | 25/32 | | | | 126 020 | |
| 21.0 | 13/16 | ~ PG 13.5 | | | 126 021 | |
| 22.0 | 7/8 | | 1/2 | | 126 022 | |
| 24.0 | 15/16 | ~ PG 16 | | | 126 024 | |
| 25.0 | 1" | | | | 126 025 | |
| 27.0 | 1 1/16 | | | | 126 027 | |
| 28.0 | 1 3/32 | | | | 126 028 | |
| 29.0 | 1 1/8 | ~ PG 21 | 3/4 | | 126 029 | |
| 30.0 | 1 3/16 | | | | 126 030 | |
| 32.0 | 1 1/4 | | | | 126 032 | |
| 33.0 | 1 5/16 | | | | 126 033 | |
| 35.0 | 1 3/8 | | 1 | | 126 035 | |
| 36.0 | 1 1/4 | | | | 126 036 | |
| 37.0 | 1 7/16 | PG 29 | | | 126 037 | |
| 38.0 | 1 1/2 | | | 126 038 | | |
| 40.0 | 1 9/16 | | | 126 040 | | |
| 41.0 | 1 5/8 | | | 126 041 | | |
| 43.0 | 1 11/16 | | | 126 043 | | |
| 44.0 | 1 3/4 | | 1 1/4 | 126 044 | | |
| 46.0 | 1 13/16 | | | 126 046 | | |
| 48.0 | 1 7/8 | ~ PG 36 | | 126 048 | | |
| 50.0 | 1 31/32 | | | 126 050 | | |
| 51.0 | 2" | | 1 1/2 | 126 051 | | |
| 52.0 | 2 1/16 | | | 126 052 | | |
| 54.0 | 2 1/8 | PG 42 | | 126 054 | | |
| 55.0 | 2 11/64 | | | 126 055 | | |
| 57.0 | 2 1/4 | | | 126 057 | | |
| 59.0 | 2 5/16 | | | 126 059 | | |
| 60.0 | 2 3/8 | ~ PG 48 | | 126 060 | | |
| 63.0 | 2 15/32 | | | 126 063 | | |
| 64.0 | 2 1/2 | | 2 | 126 064 | | |
| 65.0 | 2 9/16 | | | 126 065 | | |
| 67.0 | 2 5/8 | | | 126 067 | | |
| 68.0 | 2 11/16 | | | 126 068 | | |
| 70.0 | 2 3/4 | | | 126 070 | | |
| 73.0 | 2 7/8 | | | 126 073 | | |
| 76.0 | 3" | | 2 1/2 | 126 076 | | |
| 79.0 | 3 1/8 | | | 126 079 | | |
| 83.0 | 3 1/4 | | | 126 083 | | |
| 86.0 | 3 3/8 | | | 126 086 | | |
| 89.0 | 3 1/2 | | | 126 089 | | |
| 92.0 | 3 5/8 | | 3 | 126 092 | | |
| 95.0 | 3 3/4 | | | 126 095 | | |
| 98.0 | 3 7/8 | | | 126 098 | | |
| 102.0 | 4" | | | 126 102 | | |
| 105.0 | 4 1/8 | | 3 1/2 | 126 105 | | |
| 108.0 | 4 1/4 | | | 126 108 | | |
| 111.0 | 4 3/8 | | | 126 111 | | |
| 114.0 | 4 1/2 | | 4 | 126 114 | | |
| 121.0 | 4 3/4 | | | 126 121 | | |
| 127.0 | 5" | | | 126 127 | | |
| 133.0 | 5 1/4 | | | 126 133 | | |
| 140.0 | 5 1/2 | | | 126 140 | | |
| 152.0 | 6" | | | 126 152 | | |
| 160.0 | 6 5/16 | | | 126 160 | | |
| 168.0 | 6 5/8 | | | 126 168 | | |
| 177.0 | 6 31/32 | | | 126 177 | | |
| 210.0 | 8 1/4 | | | 126 200 | | |





Bi-metal hole saw HSS with varied toothing



For a more even cut and less effort. The reduced vibration and heat generation increase the service life up to three times.

Body: Special steel

Packaging: cardboard box

! Best results up to max. 5 mm.

| Ø1 mm | Ø inch | M + PG | Pipe dimensions inch | for holder | HSS | |
|----------|-----------|-----------|-------------------------|---------------|---------|---|
| 14.0 | 9/16 | | | A1 / A4 / A5 | 106 014 | 1 |
| 16.0 | 5/8 | ~ PG 9 | | | 106 016 | |
| 17.0 | 11/16 | | | | 106 017 | |
| 19.0 | 3/4 | ~ PG 11 | 3/8 | | 106 019 | |
| 20.0 | 25/32 | | | | 106 020 | |
| 21.0 | 13/16 | ~ PG 13.5 | | | 106 021 | |
| 22.0 | 7/8 | | 1/2 | | 106 022 | |
| 24.0 | 15/16 | ~ PG 16 | | | 106 024 | |
| 25.0 | 1" | | | | 106 025 | |
| 27.0 | 1 1/16 | | | | 106 027 | |
| 28.0 | 1 3/32 | | | | 106 028 | |
| 29.0 | 1 1/8 | ~ PG 21 | 3/4 | | 106 029 | |
| 30.0 | 1 3/16 | | | | 106 030 | |
| 32.0 | 1 1/4 | | | | 106 032 | |
| 33.0 | 1 5/16 | | | | 106 033 | |
| 35.0 | 1 3/8 | | 1 | | 106 035 | |
| 36.0 | 1 1/4 | | | 106 036 | | |
| 37.0 | 1 7/16 | PG 29 | | 106 037 | | |
| 38.0 | 1 1/2 | | | 106 038 | | |
| 40.0 | 1 9/16 | | | 106 040 | | |
| 41.0 | 1 5/8 | | | 106 041 | | |
| 43.0 | 1 11/16 | | | 106 043 | | |
| 44.0 | 1 3/4 | | 1 1/4 | 106 044 | | |
| 46.0 | 1 13/16 | | | 106 046 | | |
| 48.0 | 1 7/8 | ~ PG 36 | | 106 048 | | |
| 50.0 | 1 31/32 | | | 106 050 | | |
| 51.0 | 2" | | 1 1/2 | 106 051 | | |
| 52.0 | 2 1/16 | | | 106 052 | | |
| 54.0 | 2 1/8 | PG 42 | | 106 054 | | |
| 55.0 | 2 11/64 | | | 106 055 | | |
| 57.0 | 2 1/4 | | | 106 057 | | |
| 59.0 | 2 5/16 | | | 106 059 | | |
| 60.0 | 2 3/8 | ~ PG 48 | | 106 060 | | |
| 63.0 | 2 15/32 | | | 106 063 | | |
| 64.0 | 2 1/2 | | 2 | 106 064 | | |
| 65.0 | 2 9/16 | | | 106 065 | | |
| 67.0 | 2 5/8 | | | 106 067 | | |
| 68.0 | 2 11/16 | | | 106 068 | | |
| 70.0 | 2 3/4 | | | 106 070 | | |
| 73.0 | 2 7/8 | | | 106 073 | | |
| 76.0 | 3" | | 2 1/2 | 106 076 | | |
| 79.0 | 3 1/8 | | | 106 079 | | |
| 83.0 | 3 1/4 | | | 106 083 | | |
| 86.0 | 3 3/8 | | | 106 086 | | |
| 89.0 | 3 1/2 | | | 106 089 | | |
| 92.0 | 3 5/8 | | 3 | 106 092 | | |
| 95.0 | 3 3/4 | | | 106 095 | | |
| 98.0 | 3 7/8 | | | 106 098 | | |
| 102.0 | 4" | | | 106 102 | | |
| 105.0 | 4 1/8 | | 3 1/2 | 106 105 | | |
| 108.0 | 4 1/4 | | | 106 108 | | |
| 111.0 | 4 3/8 | | | 106 111 | | |
| 114.0 | 4 1/2 | | 4 | 106 114 | | |
| 121.0 | 4 3/4 | | | 106 121 | | |
| 127.0 | 5" | | | 106 127 | | |
| 133.0 | 5 1/4 | | | 106 133 | | |
| 140.0 | 5 1/2 | | | 106 140 | | |
| 152.0 | 6" | | | 106 152 | | |
| 160.0 | 6 5/16 | | | 106 160 | | |
| 168.0 | 6 5/8 | | | 106 168 | | |
| 177.0 | 6 31/32 | | | 106 177 | | |
| 210.0 | 8 1/4 | | | 106 200 | | |

Bi-metal hole saw sets

HSSE-Co 8 fine toothing | HSS varied toothing



| | | HSSE-Co 8 | HSS |
|------------------------|---|-----------|---------|
| | | | |
| 8 tfg./pcs. | Plumbers 1 Bi-metal hole saw set Ø 19.0 22.0 29.0 38.0 44.0 57.0 mm + 2 arbor holders A2 + A4 | 126 301 | 106 301 |
| 11 tfg./pcs. | Plumbers 2 Bi-metal hole saw set Ø 19.0 22.0 29.0 35.0 38.0 44.0 51.0 57.0 64.0 mm + 2 arbor holders A2 + A4 | 126 306 | 106 306 |
| 8 tfg./pcs. | Electricians 1 Bi-metal hole saw set Ø 22.0 29.0 35.0 44.0 51.0 64.0 mm + 2 arbor holders A2 + A4 | 126 305 | 106 305 |
| 8 tfg./pcs. | Electricians 2 Bi-metal hole saw set Ø 22.0 29.0 35.0 44.0 51.0 68.0 mm + 2 arbor holders A2 + A4 | 126 302 | 106 302 |
| 12 tfg./pcs. | Universal Bi-metal hole saw set Ø 19.0 22.0 25.0 29.0 35.0 38.0 44.0 51.0 57.0 64.0 mm + 2 arbor holders A2 + A4 | 126 303 | 106 303 |
| 12 tfg./pcs. | Super Bi-metal hole saw set Ø 22.0 25.0 32.0 35.0 41.0 44.0 51.0 54.0 60.0 68.0 mm + 2 arbor holders A2 + A4 | 126 304 | 106 304 |
| 19 tfg./pcs. | Premium Bi-metal hole saw set Ø 16.0 19.0 21.0 24.0 25.0 29.0 32.0 37.0 40.0 48.0 51.0 54.0 60.0 73.0 83.0 mm + 2 arbor holders A1 + A2 + 1 pilot drill HSS Ø 6.35 mm x 82.0 mm + 1 extension 300.0 mm, arbors for A1 + A2 | 126 318 | 106 318 |



106 306



126 304



106 318



Arbor holders including pilot drill for bi-metal hole saws HSS and HSSE-Co 8

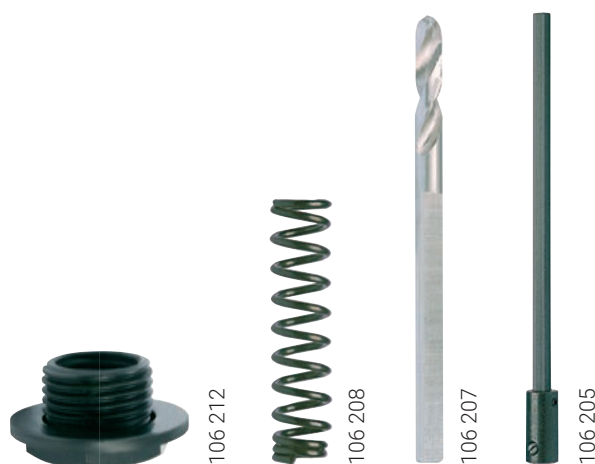


Packaging: cardboard box

| Hole saws Ø mm | Holder type | Shank Ø mm | Shank shape | Thread | HSSE-Co 8 | HSS | |
|-------------------|----------------|---------------|----------------|-----------|-----------|---------|---|
| | | | | | | | |
| 14.0 - 30.0 | A1 | 11.0 | ⬡ | 1/2" x 20 | 126 201 | 106 201 | 1 |
| 32.0 - 210.0 | A2 | 11.0 | ⬡ | 5/8" x 18 | 126 202 | 106 202 | 1 |
| 14.0 - 30.0 | A4 | 6.0 | ○ | 1/2" x 20 | 126 204 | 106 204 | 1 |
| 14.0 - 30.0 | A5 | 9.5 | ⬡ | 1/2" x 20 | 126 210 | 106 210 | 1 |
| 32.0 - 210.0 | A6 | 9.5 | ⬡ | 5/8" x 18 | 126 209 | 106 209 | 1 |
| 32.0 - 210.0 | A7 | 10.0 | SDS-Plus | 5/8" x 18 | 126 211 | 106 211 | 1 |

Accessories for bi-metal hole saws HSS and HSSE-Co 8

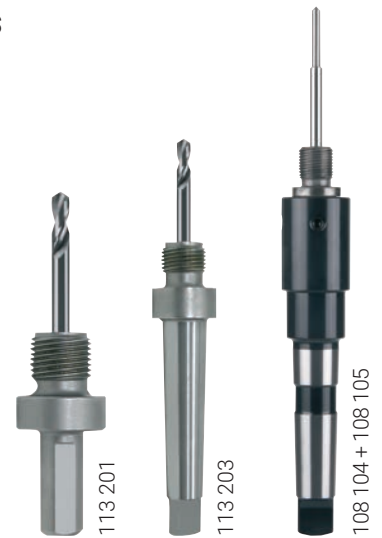

10




Packaging: plastic

| | Holder type | HSSE-Co 5 | HSS | |
|---|------------------------|-----------|---------|---|
| Adapter to support HSS and HSSE-Co 8 bi-metal hole saws from Ø 32.0 to Ø 210.0 mm | A1 / A4 / A5 | — | 106 212 | 1 |
| Pilot drill HSSE-Co 5 ground, Ø 6,35 x 102,0 mm and split point in accordance with DIN 1412 C | A4 | 126 207 | 106 207 | 1 |
| Pilot drill HSSE-Co 5 ground, Ø 6,35 x 82,0 mm and split point in accordance with DIN 1412 C | A1 / A2 / A5 / A6 / A7 | 126 206 | 106 206 | 1 |
| Extension 300.0 mm, Shank shape ⬡ 11.0 mm | A1 / A2 | — | 106 205 | 1 |
| Ejector spring | — | — | 106 208 | 1 |

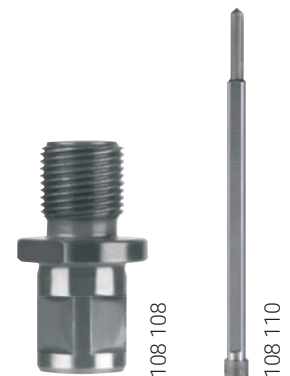
Arbor holders for tungsten carbide multigrade hole saws with threaded retainer M18 x 6 P1,5




Packaging: plastic

| | for hole saws MHS Ø mm | Shank | suitable for magnetic drilling machines | |  |
|--|---------------------------|-----------|--|---------|---|
| Arbor holder including guide drill item no. 113 216 | 31.0 - 100.0 | Ø 13.0 mm | A10 | 113 201 | 1 |
| Arbor holder including guide drill item no. 113 216 | 31.0 - 100.0 | MT 2 | RU25 | 113 203 | 1 |
| Arbor holder with internal cooling including adapter item no. 108 108 and ejector pin item no. 108 110 | 31.0 - 100.0 | MT 2 | RU25 | 108 104 | 1 |
| Arbor holder with internal cooling including adapter item no. 108 108 and ejector pin item no. 108 110 | 31.0 - 100.0 | MT 3 | RU40 | 108 105 | 1 |

Adapter for tungsten carbide multigrade hole saws with threaded retainer M18 x 6 P1,5



Packaging: plastic

| | for hole saws MHS Ø mm | |  |
|---|---------------------------|---------|---|
| Adapter with weldon shank 3/4" for multigrade hole saws MHS with threaded retainer M18 x 6 P1,5 | 31.0 - 100.0 | 108 108 | 1 |
| Ejector pin Ø 6.35 x 118.0 mm | 31.0 - 100.0 | 108 110 | 1 |



Recommended cutting speeds – for tungsten carbide hole saws

| Material: | | High carbon struc. steel | Alloyed steel | Cast iron | CuZn alloy | Aluminium alloy | Thermo-plastics | Duro-plastics | Wood |
|------------|---------|-----------------------------|------------------------------|----------------------------|----------------|-----------------|-----------------|----------------|----------------|
| | | up to 700 N/mm ² | up to 1000 N/mm ² | over 250 N/mm ² | | up to 11% Si | | | |
| Vc = m/min | | 30 | 20 | 10 | 60 | 35 | 30 | 20 | 15 |
| Coolant: | | Cutting spray | Cutting spray | Compressed air | Compressed air | Cutting spray | Water | Compressed air | Compressed air |
| Ø mm | Ø inch | r.p.m. | r.p.m. | r.p.m. | r.p.m. | r.p.m. | r.p.m. | r.p.m. | r.p.m. |
| 16.0 | 5/8 | 995 | 697 | 796 | 1194 | 1194 | 896 | 796 | 995 |
| 16.5 | - | 965 | 676 | 772 | 1158 | 1158 | 869 | 772 | 965 |
| 17.0 | 11/16 | 937 | 656 | 749 | 1124 | 1124 | 843 | 749 | 937 |
| 18.0 | 45/64 | 885 | 619 | 708 | 1062 | 1062 | 796 | 708 | 885 |
| 18.6 | 47/64 | 856 | 599 | 685 | 1027 | 1027 | 770 | 685 | 856 |
| 19.0 | 3/4 | 838 | 587 | 670 | 1006 | 1006 | 754 | 670 | 838 |
| 20.0 | 25/32 | 796 | 557 | 637 | 955 | 955 | 717 | 637 | 796 |
| 20.4 | 13/16 | 781 | 546 | 624 | 937 | 937 | 703 | 624 | 781 |
| 21.0 | 13/16 | 758 | 531 | 607 | 910 | 910 | 682 | 607 | 758 |
| 22.0 | 7/8 | 724 | 507 | 579 | 869 | 869 | 651 | 579 | 724 |
| 22.5 | 57/64 | 708 | 495 | 566 | 849 | 849 | 637 | 566 | 708 |
| 23.0 | 29/32 | 692 | 485 | 554 | 831 | 831 | 623 | 554 | 692 |
| 24.0 | 15/16 | 663 | 464 | 531 | 796 | 796 | 597 | 531 | 663 |
| 25.0 | 1" | 637 | 446 | 510 | 764 | 764 | 573 | 510 | 637 |
| 25.5 | - | 624 | 437 | 500 | 749 | 749 | 562 | 500 | 624 |
| 26.0 | 1 1/32 | 612 | 429 | 490 | 735 | 735 | 551 | 490 | 612 |
| 27.0 | 1 1/16 | 590 | 413 | 472 | 708 | 708 | 531 | 472 | 590 |
| 28.0 | 1 3/32 | 569 | 398 | 455 | 682 | 682 | 512 | 455 | 569 |
| 28.3 | 1 1/8 | 563 | 394 | 450 | 675 | 675 | 506 | 450 | 563 |
| 29.0 | - | 549 | 384 | 439 | 659 | 659 | 494 | 439 | 549 |
| 30.0 | 1 3/16 | 531 | 372 | 425 | 637 | 637 | 478 | 425 | 531 |
| 31.0 | 1 7/32 | 514 | 360 | 411 | 616 | 616 | 462 | 411 | 514 |
| 32.0 | 1 1/4 | 498 | 348 | 398 | 597 | 597 | 448 | 398 | 498 |
| 32.5 | - | 490 | 343 | 392 | 588 | 588 | 441 | 392 | 490 |
| 33.0 | 1 5/16 | 483 | 338 | 386 | 579 | 579 | 434 | 386 | 483 |
| 34.0 | 1 11/32 | 468 | 328 | 375 | 562 | 562 | 422 | 375 | 468 |
| 35.0 | 1 3/8 | 455 | 318 | 364 | 546 | 546 | 409 | 364 | 455 |
| 36.0 | 1 1/4 | 442 | 310 | 354 | 531 | 531 | 398 | 354 | 442 |
| 37.0 | 1 7/16 | 430 | 301 | 344 | 516 | 516 | 387 | 344 | 430 |
| 38.0 | 1 1/2 | 419 | 293 | 335 | 503 | 503 | 377 | 335 | 419 |
| 39.0 | 1 17/32 | 408 | 286 | 327 | 490 | 490 | 367 | 327 | 408 |
| 40.0 | 1 9/16 | 398 | 279 | 318 | 478 | 478 | 358 | 318 | 398 |
| 40.5 | 1 19/32 | 393 | 275 | 315 | 472 | 472 | 354 | 315 | 393 |
| 41.0 | 1 5/8 | 388 | 272 | 311 | 466 | 466 | 350 | 311 | 388 |
| 42.0 | 1 21/32 | 379 | 265 | 303 | 455 | 455 | 341 | 303 | 379 |
| 43.0 | 1 11/16 | 370 | 259 | 296 | 444 | 444 | 333 | 296 | 370 |
| 44.0 | 1 3/4 | 362 | 253 | 290 | 434 | 434 | 326 | 290 | 362 |
| 45.0 | - | 354 | 248 | 283 | 425 | 425 | 318 | 283 | 354 |
| 46.0 | 1 13/16 | 346 | 242 | 277 | 415 | 415 | 312 | 277 | 346 |
| 47.0 | - | 339 | 237 | 271 | 407 | 407 | 305 | 271 | 339 |
| 48.0 | 1 7/8 | 332 | 232 | 265 | 398 | 398 | 299 | 265 | 332 |
| 49.0 | 1 15/16 | 325 | 227 | 260 | 390 | 390 | 292 | 260 | 325 |
| 50.0 | 1 31/32 | 318 | 223 | 255 | 382 | 382 | 287 | 255 | 318 |
| 50.5 | 1 63/64 | 315 | 221 | 252 | 378 | 378 | 284 | 252 | 315 |
| 51.0 | 2" | 312 | 219 | 250 | 375 | 375 | 281 | 250 | 312 |
| 52.0 | 2 1/16 | 306 | 214 | 245 | 367 | 367 | 276 | 245 | 306 |
| 53.0 | 2 3/32 | 300 | 210 | 240 | 361 | 361 | 270 | 240 | 300 |
| 54.0 | 2 1/8 | 295 | 206 | 236 | 354 | 354 | 265 | 236 | 295 |
| 55.0 | 2 11/64 | 290 | 203 | 232 | 347 | 347 | 261 | 232 | 290 |
| 56.0 | 2 13/64 | 284 | 199 | 227 | 341 | 341 | 256 | 227 | 284 |
| 57.0 | 2 1/4 | 279 | 196 | 223 | 335 | 335 | 251 | 223 | 279 |
| 58.0 | 2 9/32 | 275 | 192 | 220 | 329 | 329 | 247 | 220 | 275 |
| 59.0 | 2 5/16 | 270 | 189 | 216 | 324 | 324 | 243 | 216 | 270 |
| 60.0 | 2 3/8 | 265 | 186 | 212 | 318 | 318 | 239 | 212 | 265 |
| 63.5 | 2 1/2 | 251 | 176 | 201 | 301 | 301 | 226 | 201 | 251 |
| 65.0 | 2 9/16 | 245 | 171 | 196 | 294 | 294 | 220 | 196 | 245 |
| 70.0 | 2 3/4 | 227 | 159 | 182 | 273 | 273 | 205 | 182 | 227 |
| 75.0 | 2 61/64 | 212 | 149 | 170 | 255 | 255 | 191 | 170 | 212 |
| 80.0 | 3 5/32 | 199 | 139 | 159 | 239 | 239 | 179 | 159 | 199 |
| 85.0 | 3 11/32 | 187 | 131 | 150 | 225 | 225 | 169 | 150 | 187 |
| 90.0 | 3 35/64 | 177 | 124 | 142 | 212 | 212 | 159 | 142 | 177 |
| 95.0 | 3 3/4 | 168 | 117 | 134 | 201 | 201 | 151 | 134 | 168 |
| 100.0 | 3 15/16 | 159 | 111 | 127 | 191 | 191 | 143 | 127 | 159 |
| 110.0 | 4 11/32 | 145 | 101 | 116 | 174 | 174 | 130 | 116 | 145 |
| 120.0 | 4 23/32 | 133 | 93 | 106 | 159 | 159 | 119 | 106 | 133 |
| 130.0 | 5 1/8 | 122 | 86 | 98 | 147 | 147 | 110 | 98 | 122 |
| 140.0 | 5 1/2 | 114 | 80 | 91 | 136 | 136 | 102 | 91 | 114 |
| 150.0 | 5 29/32 | 106 | 74 | 85 | 127 | 127 | 96 | 85 | 106 |

Recommended cutting speeds – for bi-metal hole saws HSS and HSSE-Co 8

| Material: | | High carbon struc. steel | Alloyed steel | Cast iron | CuZn alloy | Aluminium alloy | Thermo-plastics | Duro-plastics | Wood |
|------------|---------|-----------------------------|------------------------------|----------------------------|----------------|-----------------|-----------------|----------------|----------------|
| | | up to 700 N/mm ² | up to 1000 N/mm ² | over 250 N/mm ² | | up to 11% Si | | | |
| Vc = m/min | | 30 | 20 | 10 | 35 | 30 | 20 | 15 | 40 |
| Coolant: | | Cutting spray | Cutting spray | Compressed air | Compressed air | Cutting spray | Water | Compressed air | Compressed air |
| Ø mm | Ø inch | r.p.m. | r.p.m. | r.p.m. | r.p.m. | r.p.m. | r.p.m. | r.p.m. | r.p.m. |
| 14.0 | 9/16 | 682 | 455 | 227 | 796 | 682 | 455 | 341 | 910 |
| 16.0 | 5/8 | 597 | 398 | 199 | 697 | 597 | 398 | 299 | 796 |
| 17.0 | 11/16 | 562 | 375 | 187 | 656 | 562 | 375 | 281 | 749 |
| 19.0 | 3/4 | 503 | 335 | 168 | 587 | 503 | 335 | 251 | 670 |
| 21.0 | 13/16 | 455 | 303 | 152 | 531 | 455 | 303 | 227 | 607 |
| 22.0 | 7/8 | 434 | 290 | 145 | 507 | 434 | 290 | 217 | 579 |
| 24.0 | 15/16 | 398 | 265 | 133 | 464 | 398 | 265 | 199 | 531 |
| 25.0 | 1" | 382 | 255 | 127 | 446 | 382 | 255 | 191 | 510 |
| 27.0 | 1 1/16 | 354 | 236 | 118 | 413 | 354 | 236 | 177 | 472 |
| 28.0 | 1 3/32 | 341 | 227 | 114 | 398 | 341 | 227 | 171 | 455 |
| 29.0 | 1 1/8 | 329 | 220 | 110 | 384 | 329 | 220 | 165 | 439 |
| 30.0 | 1 3/16 | 318 | 212 | 106 | 372 | 318 | 212 | 159 | 425 |
| 32.0 | 1 1/4 | 299 | 199 | 100 | 348 | 299 | 199 | 149 | 398 |
| 33.0 | 1 5/16 | 290 | 193 | 97 | 338 | 290 | 193 | 145 | 386 |
| 35.0 | 1 3/8 | 273 | 182 | 91 | 318 | 273 | 182 | 136 | 364 |
| 36.0 | 1 1/4 | 265 | 177 | 88 | 310 | 265 | 177 | 133 | 354 |
| 37.0 | 1 7/16 | 258 | 172 | 86 | 301 | 258 | 172 | 129 | 344 |
| 38.0 | 1 1/2 | 251 | 168 | 84 | 293 | 251 | 168 | 126 | 335 |
| 40.0 | 1 9/16 | 239 | 159 | 80 | 279 | 239 | 159 | 119 | 318 |
| 41.0 | 1 5/8 | 233 | 155 | 78 | 272 | 233 | 155 | 117 | 311 |
| 43.0 | 1 11/16 | 222 | 148 | 74 | 259 | 222 | 148 | 111 | 296 |
| 44.0 | 1 3/4 | 217 | 145 | 72 | 253 | 217 | 145 | 109 | 290 |
| 46.0 | 1 13/16 | 208 | 138 | 69 | 242 | 208 | 138 | 104 | 277 |
| 48.0 | 1 7/8 | 199 | 133 | 66 | 232 | 199 | 133 | 100 | 265 |
| 50.0 | 1 31/32 | 190 | 128 | 64 | 225 | 194 | 129 | 97 | 257 |
| 51.0 | 2" | 187 | 125 | 62 | 219 | 187 | 125 | 94 | 250 |
| 52.0 | 2 1/16 | 184 | 122 | 61 | 214 | 184 | 122 | 92 | 245 |
| 54.0 | 2 1/8 | 177 | 118 | 59 | 206 | 177 | 118 | 88 | 236 |
| 57.0 | 2 1/4 | 168 | 112 | 56 | 196 | 168 | 112 | 84 | 223 |
| 59.0 | 2 5/16 | 162 | 108 | 54 | 189 | 162 | 108 | 81 | 216 |
| 60.0 | 2 3/8 | 159 | 106 | 53 | 186 | 159 | 106 | 80 | 212 |
| 63.0 | 2 15/32 | 152 | 101 | 51 | 177 | 152 | 101 | 76 | 202 |
| 64.0 | 2 1/2 | 149 | 100 | 50 | 174 | 149 | 100 | 75 | 199 |
| 65.0 | 2 9/16 | 147 | 98 | 49 | 171 | 147 | 98 | 73 | 196 |
| 67.0 | 2 5/8 | 143 | 95 | 48 | 166 | 143 | 95 | 71 | 190 |
| 68.0 | 2 11/16 | 141 | 94 | 47 | 164 | 141 | 94 | 70 | 187 |
| 70.0 | 2 3/4 | 136 | 91 | 45 | 159 | 136 | 91 | 68 | 182 |
| 73.0 | 2 7/8 | 131 | 87 | 44 | 153 | 131 | 87 | 65 | 175 |
| 76.0 | 3" | 126 | 84 | 42 | 147 | 126 | 84 | 63 | 168 |
| 79.0 | 3 1/8 | 121 | 81 | 40 | 141 | 121 | 81 | 60 | 161 |
| 83.0 | 3 1/4 | 115 | 77 | 38 | 134 | 115 | 77 | 58 | 153 |
| 86.0 | 3 3/8 | 111 | 74 | 37 | 130 | 111 | 74 | 56 | 148 |
| 89.0 | 3 1/2 | 107 | 72 | 36 | 125 | 107 | 72 | 54 | 143 |
| 92.0 | 3 5/8 | 104 | 69 | 35 | 121 | 104 | 69 | 52 | 138 |
| 95.0 | 3 3/4 | 101 | 67 | 34 | 117 | 101 | 67 | 50 | 134 |
| 98.0 | 3 7/8 | 97 | 65 | 32 | 114 | 97 | 65 | 49 | 130 |
| 102.0 | 4" | 94 | 62 | 31 | 109 | 94 | 62 | 47 | 125 |
| 105.0 | 4 1/8 | 91 | 61 | 30 | 106 | 91 | 61 | 45 | 121 |
| 108.0 | 4 1/4 | 88 | 59 | 29 | 103 | 88 | 59 | 44 | 118 |
| 111.0 | 4 3/8 | 86 | 57 | 29 | 100 | 86 | 57 | 43 | 115 |
| 114.0 | 4 1/2 | 84 | 56 | 28 | 98 | 84 | 56 | 42 | 112 |
| 121.0 | 4 3/4 | 79 | 53 | 26 | 92 | 79 | 53 | 39 | 105 |
| 127.0 | 5" | 75 | 50 | 25 | 88 | 75 | 50 | 38 | 100 |
| 140.0 | 5 1/2 | 68 | 45 | 23 | 80 | 68 | 45 | 34 | 91 |
| 152.0 | 6" | 63 | 42 | 21 | 73 | 63 | 42 | 31 | 84 |
| 160.0 | 6 5/16 | 60 | 40 | 20 | 70 | 60 | 40 | 30 | 80 |
| 168.0 | 6 5/8 | 57 | 38 | 19 | 66 | 57 | 38 | 28 | 76 |
| 177.0 | 6 31/32 | 54 | 36 | 18 | 63 | 54 | 36 | 27 | 72 |
| 210.0 | 8 1/4 | 45 | 30 | 15 | 53 | 45 | 30 | 23 | 61 |

