

# DORMER PRAMET

## HYDRA

VYSOCE VÝKONNÉ  
VÝMĚNNÉ VRTACÍ HLAVY

# 2020



 **DORMER**





Stávající řadu vrtáků Hydra jsme doplnili o nové délky těl. Délka 12xD pro vrtání hlubokých otvorů a tělo délky 1,5xD pro vyšší tuhost vrtání mělkých otvorů desek a silných plechů.

Těla vrtáků umožňují upnout celou škálu hlav z monolitního karbidu pro obrábění oceli, korozivzdorné oceli a litiny.

## VLASTNOSTI A VÝHODY

- **Stabilní vysoký výkon**, i po několika výměnách hlavy.
- **Snížení nákladů** – jedno tělo vrtáku umožňuje upnout několik velikostí karbidových hlav.
- **Univerzálnost** – válcová stopka s plochou umožňující vícenásobné upnutí nástroje.
- **Snadné a rychlé výměny hlavy** s minimálním přerušením výrobního procesu. Hlavy lze vyměnit bez vysunutí těla vrtáku ze stroje.
- Přesné dosednutí hlavy na tělo maximalizuje tuhost, což umožňuje dosáhnout **špičkové přesnosti otvorů** a přesných tolerancí.

## MATERIÁL

### HLAVA Z PRÉMIOVÉHO MIKROZRNNÉHO KARBIDU

- Mikrozrnny karbid nabízí skvělou kombinaci tvrdosti a houževnatosti, což má za následek vysokou odolnost proti opotřebení a delší životnost nástrojů.

### TĚLO VRTÁKU Z TVRZENÉ OCELI

- Tvrzená ocel s vysoce lesklým niklováním pro vysokou odolnost proti opotřebení a korozi.

## POVLAKOVÁNÍ

### POVLAK NA BÁZI TITAN ALUMINIUM NITRIDU (TiAlN) ZAJIŠŤUJE:

- Vysokou houževnatost a odolnost proti oxidaci.
- Výjimečnou ochranu při obrábění abrazivních materiálů, jako například litiny.
- Vysokou tvrdost při vysokých teplotách vznikajících při vrtání do litiny.
- Prodlouženou životnost a produktivitu nástroje.

## TYPY HLAV



R950

OCEL



R960

KOROZIVZDORNÁ  
OCEL

R970

LITINA

## GEOMETRIE

## KONSTRUKCE ROHŮ

- Silnější konstrukce rohů zvyšuje stabilitu při vrtání a snižuje síly při výstupu z materiálu.
- Díky tomu lze dosáhnout vyšší kvality koncového povrchu a předchází se vzniku otřepů, k němuž může dojít při vrtání do materiálů se zrnitou mikrostrukturou.

## GEOMETRIE HROTU

- 140° geometrie špičky usnadňuje vystředování a snižuje přítlačnou sílu při vrtání do většiny materiálů.

## KOMPLETNÍ ŘADA

- Dostupné v délkách 1,5×D, 3×D, 5×D, 8×D a 12×D s otvory pro přívod chladicí kapaliny, která zvyšuje účinnost v řezu a zlepšuje odvod třísek, čímž se zvyšuje produktivita.
- Metrické: 12,00 mm až 42,00 mm.
- Palcové: 15/32 in až 1.5/8 in.
- Nejlepších výsledků lze dosáhnout s použitím hydraulických upínacích pouzder. Upínat lze také do držáků typu ER a Weldon.



## DÉLKY TĚL

1,5×D



NEW

3×D



5×D



8×D



12×D



NEW

## SKUPINY MATERIÁLŮ OBROBKŮ (WMG)

**ISO** pro výběr materiálu řezného nástroje a geometrie  
pro širokou škálu materiálů obrobků

**Obecná definice**  
tj. ocel, korozivzdorná ocel...

**P** **M** **K** **S** **H**

**Podskupina** pro volbu vhodného nástroje  
pro specifičtější rozdělení materiálů obrobků

**Rozdělení podle struktury/složení**  
tj. běžná uhlíková ocel, legovaná ocel...

**P** **M** **K** **N** **S** **H**

**P1**

**P2**

**P3**

**P4**

**WMG** pro výběr počátečních řezných  
podmínek s rozsahem  $\pm 10\%$

**Rozdělení podle tvrdosti / meze pevnosti v tahu**  
tj.  $160 < 220 \text{ HB}$ ,  $620 < 900 \text{ N/mm}^2$ ...

**P**

**P1** **P1.1** **P1.2** **P1.3**

**P2** **P2.1** **P2.2** **P2.3**

**P3** **P3.1** **P3.2** **P3.3**

**P4** **P4.1** **P4.2** **P4.3**

## ROZLIŠENÍ MATERIÁLŮ OBROBKŮ SPOLEČNOSTI DORMER PRAMET

Skupiny materiálů obrobků (WMG) se používají k usnadnění výběru správného řezného nástroje a k výběru počátečních řezných podmínek v konkrétním použití.

Norma ISO 513 klasifikuje materiály obrobků do šesti různě zbarvených skupin:

- **Modrá:** ocel a ocelolitina (skupina P)
- **Žlutá:** korozivzdorná ocel (skupina M)
- **Červená:** litina (skupina K)
- **Zelená:** neželezné kovy (skupina N)
- **Oranžová:** žárupevné slitiny (skupina S)
- **Šedá:** kalené materiály (skupina H)

Šest základních ISO skupin se dále dělí na podskupiny na základě struktury a složení materiálů. Například ocel a ocelolitina skupiny P se dělí na tyto čtyři podskupiny:

- **P1 – automatová ocel**
- **P2 – běžná uhlíková ocel**
- **P3 – legovaná ocel**
- **P4 – nástrojová ocel**

Třetí úroveň rozdělení zahrnuje vlastnosti materiálu, jako je tvrdost a mez pevnosti v tahu. Zde poskytujeme našim zákazníkům výběr vhodného nástroje, včetně doporučených počátečních řezných podmínek.

Tabulka na následující straně uvádí popis jednotlivých skupin materiálů obrobků a příklady běžně používaných označení.

| ISO  | Skupiny materiálů obrobků (WMG) |                                                                    | Mez<br>pevnosti<br>v tahu<br>MPa [N/mm <sup>2</sup> ]                                                           | Stará Dormer<br>AMC                            | Stará Pramet<br>ISO |     |
|------|---------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------|-----|
| P    | P1                              | P1.1                                                               | Automatová uhlíková ocel obsahující síru s tvrdostí < 220 HB                                                    | ≤ 760                                          | 1.1                 | P1  |
|      |                                 | P1.2                                                               | Automatová uhlíková ocel obsahující síru a fosfor s tvrdostí < 180 HB                                           | ≤ 620                                          | 1.1                 | P1  |
|      |                                 | P1.3                                                               | Automatová uhlíková ocel obsahující síru, fosfor a olovo s tvrdostí < 160 HB                                    | ≤ 550                                          | 1.1                 | P1  |
|      | P2                              | P2.1                                                               | Běžná nízkouhlíková ocel obsahující < 0,25 % C s tvrdostí < 180 HB                                              | ≤ 620                                          | 1.2                 | P2  |
|      |                                 | P2.2                                                               | Běžná středně uhlíková ocel obsahující < 0,55 % C s tvrdostí < 240 HB                                           | ≤ 830                                          | 1.3                 | P2  |
|      |                                 | P2.3                                                               | Běžná vysoce uhlíková ocel obsahující < 0,55 % C s tvrdostí < 300 HB                                            | ≤ 1030                                         | 1.5                 | P3  |
|      | P3                              | P3.1                                                               | Legovaná ocel s tvrdostí < 180 HB                                                                               | ≤ 620                                          | 1.4                 | P3  |
|      |                                 | P3.2                                                               | Legovaná ocel s tvrdostí 180–260 HB                                                                             | > 620 ≤ 900                                    | 1.4                 | P3  |
|      |                                 | P3.3                                                               | Legovaná ocel s tvrdostí 260–360 HB                                                                             | > 900 ≤ 1240                                   | 1.5                 | P4  |
|      | P4                              | P4.1                                                               | Nástrojová ocel s tvrdostí < 26 HRC                                                                             | ≤ 900                                          | 1.4                 | P3  |
|      |                                 | P4.2                                                               | Nástrojová ocel s tvrdostí 26–39 HRC                                                                            | > 900 ≤ 1240                                   | 1.5                 | P4  |
|      |                                 | P4.3                                                               | Nástrojová ocel s tvrdostí 39–45 HRC                                                                            | > 1250 ≤ 1450                                  | 1.6                 | H1  |
| M    | M1                              | M1.1                                                               | Korozivzdorná ocel, feritická s tvrdostí < 160 HB                                                               | ≤ 520                                          | 2.1                 | M1  |
|      |                                 | M1.2                                                               | Korozivzdorná ocel, feritická s tvrdostí 160–220 HB                                                             | > 520 ≤ 700                                    | 2.1                 | M1  |
|      | M2                              | M2.1                                                               | Korozivzdorná ocel, martenzitická s tvrdostí < 200 HB                                                           | ≤ 670                                          | 2.3                 | M2  |
|      |                                 | M2.2                                                               | Korozivzdorná ocel, martenzitická s tvrdostí 200–280 HB                                                         | > 670 ≤ 950                                    | 2.3                 | M2  |
|      |                                 | M2.3                                                               | Korozivzdorná ocel, martenzitická s tvrdostí 280–380 HB                                                         | > 950 ≤ 1300                                   | 2.4                 | M2  |
|      | M3                              | M3.1                                                               | Korozivzdorná ocel, austenitická s tvrdostí < 200 HB                                                            | ≤ 750                                          | 2.2                 | M3  |
|      |                                 | M3.2                                                               | Korozivzdorná ocel, austenitická s tvrdostí 200–260 HB                                                          | > 750 ≤ 870                                    | 2.2                 | M3  |
|      |                                 | M3.3                                                               | Korozivzdorná ocel, austenitická s tvrdostí 260–300 HB                                                          | > 870 ≤ 1040                                   | 2.2                 | M3  |
|      | M4                              | M4.1                                                               | Korozivzdorná ocel, austeniticko-feritická nebo superaustenitická s tvrdostí < 300 HB                           | ≤ 990                                          | 2.3                 | M4  |
|      |                                 | M4.2                                                               | Korozivzdorná ocel, precipitačně vytvrzená austenitická s tvrdostí 300–380 HB                                   | ≤ 1320                                         | 2.4                 | M4  |
| K    | K1                              | K1.1                                                               | Šedá litina, feritická nebo feriticko-perlitická s tvrdostí < 180 HB                                            | ≤ 190                                          | 3.1                 | K1  |
|      |                                 | K1.2                                                               | Šedá litina, feriticko-perlitická nebo perlitická s tvrdostí 180–240 HB                                         | > 190 ≤ 310                                    | 3.2                 | K1  |
|      |                                 | K1.3                                                               | Šedá litina, perlitická s tvrdostí 240–280 HB                                                                   | > 310 ≤ 390                                    | 3.2                 | K1  |
|      | K2                              | K2.1                                                               | Temperovaná litina, feritická s tvrdostí < 160 HB                                                               | ≤ 400                                          | 3.3                 | K2  |
|      |                                 | K2.2                                                               | Temperovaná litina, feritická nebo perlitická s tvrdostí 160–200 HB                                             | > 400 ≤ 550                                    | 3.3                 | K2  |
|      |                                 | K2.3                                                               | Temperovaná litina, perlitická s tvrdostí 200–240 HB                                                            | > 550 ≤ 660                                    | 3.4                 | K2  |
|      | K3                              | K3.1                                                               | Tvárná (nodulární/globulární) litina, feritická s tvrdostí < 180 HB                                             | ≤ 560                                          | 3.3                 | K3  |
|      |                                 | K3.2                                                               | Tvárná (nodulární/globulární) litina, feritická nebo perlitická s tvrdostí 180–220 HB                           | > 560 ≤ 680                                    | 3.3                 | K4  |
|      |                                 | K3.3                                                               | Tvárná (nodulární/globulární) litina, perlitická s tvrdostí 220–260 HB                                          | > 680 ≤ 800                                    | 3.4                 | K4  |
|      | K4                              | K4.1                                                               | Austenitická litina s tvrdostí < 180 HB                                                                         | ≤ 610                                          |                     |     |
|      |                                 | K4.2                                                               | Austenitická litina s tvrdostí 180–240 HB                                                                       | > 610 ≤ 840                                    |                     |     |
|      |                                 | K4.3                                                               | Austenitická litina s tvrdostí 240–280 HB                                                                       | > 840 ≤ 980                                    |                     |     |
|      |                                 | K4.4                                                               | Izotermicky kalená tvárná litina s tvrdostí 280–320 HB                                                          | > 980 ≤ 1130                                   |                     |     |
|      |                                 | K4.5                                                               | Izotermicky kalená tvárná litina s tvrdostí 320–360 HB                                                          | > 1130 ≤ 1280                                  |                     |     |
|      | K5                              | K5.1                                                               | Litina s vermikulárním (kompaktním) grafitem s tvrdostí < 180 HB                                                |                                                |                     |     |
| K5.2 |                                 | Litina s vermikulárním (kompaktním) grafitem s tvrdostí 180–220 HB |                                                                                                                 |                                                |                     |     |
| K5.3 |                                 | Litina s vermikulárním (kompaktním) grafitem s tvrdostí 220–260 HB |                                                                                                                 |                                                |                     |     |
| N    | N1                              | N1.1                                                               | Čistý hliník a tvářené slitiny hliníku s tvrdostí < 60 HB                                                       | ≤ 240                                          | 7.1                 | N1  |
|      |                                 | N1.2                                                               | Tvářené slitiny hliníku s tvrdostí 60–100 HB                                                                    | > 240 ≤ 400                                    | 7.1                 | N1  |
|      |                                 | N1.3                                                               | Tvářené slitiny hliníku s tvrdostí 100–150 HB                                                                   | > 400 ≤ 590                                    | 7.2                 | N2  |
|      | N2                              | N2.1                                                               | Odlévané slitiny hliníku s tvrdostí < 75 HB                                                                     | ≤ 240                                          | 7.3                 | N1  |
|      |                                 | N2.2                                                               | Odlévané slitiny hliníku s tvrdostí 75–90 HB                                                                    | > 240 ≤ 270                                    | 7.3                 | N1  |
|      |                                 | N2.3                                                               | Odlévané slitiny hliníku s tvrdostí 90 < 140 HB                                                                 | > 270 ≤ 440                                    | 7.3                 | N2  |
|      | N3                              | N3.1                                                               | Automatové slitiny mědi s vynikajícími vlastnostmi při obrábění                                                 |                                                | 6.3                 | N3  |
|      |                                 | N3.2                                                               | Slitiny mědi s krátkou třískou s dobrými nebo středně dobrými vlastnostmi při obrábění                          |                                                | 6.2                 | N3  |
|      |                                 | N3.3                                                               | Elektrolytická měď a slitiny mědi s dlouhou třískou se středně dobrými až nepříznivými vlastnostmi při obrábění |                                                | 6.1                 | N4  |
|      |                                 | N4.1                                                               | Termoplastické polymery                                                                                         |                                                | 8.1                 |     |
| N4   | N4.2                            | Termosetové polymery                                               |                                                                                                                 | 8.2                                            |                     |     |
|      | N4.3                            | Vytužené polymery a kompozity                                      |                                                                                                                 | 8.3                                            |                     |     |
|      | S                               | S1                                                                 | S1.1                                                                                                            | Titan nebo slitiny titanu, s tvrdostí < 200 HB | ≤ 660               | 4.1 |
| S1.2 |                                 |                                                                    | Slitiny titanu, s tvrdostí 200–280 HB                                                                           | > 660 ≤ 950                                    | 4.2                 | S1  |
| S1.3 |                                 |                                                                    | Slitiny titanu, s tvrdostí 280–360 HB                                                                           | > 950 ≤ 1200                                   | 4.3                 | S1  |
| S2   |                                 | S2.1                                                               | Žárupevné slitiny na bázi Fe s tvrdostí < 200 HB                                                                | ≤ 690                                          |                     | S2  |
|      |                                 | S2.2                                                               | Žárupevné slitiny na bázi Fe s tvrdostí 200–280 HB                                                              | > 690 ≤ 970                                    |                     | S2  |
| S3   |                                 | S3.1                                                               | Žárupevné slitiny na bázi Ni s tvrdostí < 280 HB                                                                | ≤ 940                                          | 5.2                 | S3  |
|      |                                 | S3.2                                                               | Žárupevné slitiny na bázi Ni s tvrdostí 280–360 HB                                                              | > 940 ≤ 1200                                   | 5.3                 | S3  |
| S4   |                                 | S4.1                                                               | Žárupevné slitiny na bázi Co s tvrdostí < 240 HB                                                                | ≤ 800                                          |                     | S4  |
|      | S4.2                            | Žárupevné slitiny na bázi Co s tvrdostí 240–320 HB                 | > 800 ≤ 1070                                                                                                    |                                                | S4                  |     |
| H    | H1                              | H1.1                                                               | Tvrzená litina s tvrdostí < 400 HB                                                                              |                                                |                     |     |
|      | H2                              | H2.1                                                               | Kalená litina s tvrdostí < 55 HRC                                                                               |                                                |                     |     |
|      |                                 | H2.2                                                               | Kalená litina s tvrdostí > 55 HRC                                                                               |                                                |                     |     |
|      | H3                              | H3.1                                                               | Kalená ocel s tvrdostí < 51 HRC                                                                                 |                                                | 1.7                 | H3  |
|      |                                 | H3.2                                                               | Kalená ocel s tvrdostí 51–55 HRC                                                                                |                                                | 1.7                 | H3  |
|      | H4                              | H4.1                                                               | Kalená ocel s tvrdostí 55–59 HRC                                                                                |                                                | 1.8                 | H4  |
| H4.2 |                                 | Kalená ocel s tvrdostí > 59 HRC                                    |                                                                                                                 | 1.8                                            | H4                  |     |

$$n = \frac{V_c \times 1000}{\pi \times D}$$

$$V_f = n \times f_n$$










HM



| $\emptyset(D)$   | 12<br>[mm] | 15<br>[mm] | 16<br>[mm] | 20<br>[mm] | 25<br>[mm] | 30<br>[mm] | 40<br>[mm] |
|------------------|------------|------------|------------|------------|------------|------------|------------|
| <b>S</b>         | 0.100      | 0.123      | 0.130      | 0.150      | 0.170      | 0.190      | 0.220      |
| <b>T</b>         | 0.130      | 0.160      | 0.170      | 0.190      | 0.210      | 0.230      | 0.260      |
| <b>U</b>         | 0.200      | 0.223      | 0.230      | 0.240      | 0.270      | 0.300      | 0.360      |
| <b>V</b>         | 0.280      | 0.310      | 0.320      | 0.340      | 0.400      | 0.440      | 0.510      |
| <b>W</b>         | 0.380      | 0.418      | 0.430      | 0.450      | 0.470      | 0.490      | 0.520      |
| mm/ot. $\pm$ 25% |            |            |            |            |            |            |            |



|                                                                                   |                                                                                   |                                                                                   |                                                                                    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |  |
| <b>H861</b>                                                                       | <b>H860</b>                                                                       | <b>R950<br/>R960<br/>R970</b>                                                     | <b>H851, H853, H855, H858, H8512</b>                                               |

| R950                                                                              | R960                                                                              | R970                                                                              | H851                                                                              | H853                                                                              | H855                                                                              | H858                                                                                | H8512                                                                               | H860                                                                                | H861                                                                                |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |
|                                                                                   |                                                                                   |                                                                                   | <b>1,5xD</b>                                                                      | <b>3xD</b>                                                                        | <b>5xD</b>                                                                        | <b>8xD</b>                                                                          | <b>12xD</b>                                                                         |                                                                                     |                                                                                     |
| 12.0 – 42.0<br>15/32 – 1.5/8                                                      | 12.0 – 30.5<br>15/32 – 1.3/16                                                     | 12.0 – 42.0<br>15/32 – 1.5/8                                                      | 12.0 – 30.0<br>31/64 – 1.3/16                                                     | 12.0 – 42.5<br>31/64 – 1.3/16                                                     | 12.0 – 42.5<br>31/64 – 1.3/16                                                     | 14.0 – 42.5<br>14.0 – 25.0                                                          | 14.00 – 25.00                                                                       | N1 – N7                                                                             | N1 – N6                                                                             |
| 📖 11 – 13                                                                         |                                                                                   |                                                                                   | 📖 14 – 17                                                                         |                                                                                   |                                                                                   |                                                                                     | 📖 18                                                                                |                                                                                     |                                                                                     |

| DC<br>(mm) / [inch] | R950      | R960      | R970      | H851<br>1,5xD | H853<br>3xD | H855<br>5xD | H858<br>8xD | H8512<br>12xD | H860   | H861   |
|---------------------|-----------|-----------|-----------|---------------|-------------|-------------|-------------|---------------|--------|--------|
| 15/32"              | R95015/32 | R96015/32 | R97015/32 |               |             |             |             |               |        |        |
| 12.0                | R95012.0  | R96012.0  | R97012.0  |               |             |             |             |               |        |        |
| 12.1                | R95012.1  | R96012.1  | R97012.1  | H85112.0      | H85312.0    | H85512.0    | -           | -             |        |        |
| 12.2                | R95012.2  | R96012.2  | R97012.2  | H85131/64     | H85331/64   | H85531/64   |             |               |        |        |
| 31/64"              | R95031/64 | R96031/64 | R97031/64 |               |             |             |             |               |        |        |
| 12.5                | R95012.5  | R96012.5  | R97012.5  |               |             |             |             |               |        |        |
| 12.6                | R95012.6  | R96012.6  | R97012.6  |               |             |             |             |               |        |        |
| 1/2"                | R9501/2   | R9601/2   | R9701/2   | H85112.5      | H85312.5    | H85512.5    | -           | -             |        |        |
| 12.8                | R95012.8  | R96012.8  | R97012.8  | H8511/2       | H8531/2     | H8551/2     |             |               |        |        |
| 12.9                | R95012.9  | R96012.9  | R97012.9  |               |             |             |             |               |        |        |
| 13.0                | R95013.0  | R96013.0  | R97013.0  |               |             |             |             |               |        |        |
| 33/64"              | R95033/64 | R96033/64 | R97033/64 |               |             |             |             |               |        |        |
| 13.2                | R95013.2  | R96013.2  | R97013.2  | H85113.0      | H85313.0    | H85513.0    | -           | -             |        |        |
| 17/32"              | R95017/32 | R96017/32 | R97017/32 | H85117/32     | H85317/32   | H85517/32   |             |               |        |        |
| 13.5                | R95013.5  | R96013.5  | R97013.5  |               |             |             |             |               |        |        |
| 13.6                | R95013.6  | R96013.6  | R97013.6  |               |             |             |             |               |        |        |
| 13.7                | R95013.7  | R96013.7  | R97013.7  |               |             |             |             |               |        |        |
| 13.8                | R95013.8  | R96013.8  | R97013.8  |               |             |             |             |               | H860N1 | H861N1 |
| 35/64"              | R95035/64 | R96035/64 | R97035/64 | H85114.0      | H85314.0    | H85514.0    | H85814.0    | H851214.0     |        |        |
| 14.0                | R95014.0  | R96014.0  | R97014.0  | H8519/16      | H8539/16    | H8559/16    |             |               |        |        |
| 14.1                | R95014.1  | R96014.1  | R97014.1  |               |             |             |             |               |        |        |
| 14.2                | R95014.2  | R96014.2  | R97014.2  |               |             |             |             |               |        |        |
| 9/16"               | R9509/16  | R9609/16  | R9709/16  |               |             |             |             |               |        |        |
| 14.5                | R95014.5  | R96014.5  | R97014.5  |               |             |             |             |               |        |        |
| 14.6                | R95014.6  | R96014.6  | R97014.6  |               |             |             |             |               |        |        |
| 37/64"              | R95037/64 | R96037/64 | R97037/64 |               |             |             |             |               |        |        |
| 14.7                | R95014.7  | R96014.7  | R97014.7  |               |             |             |             |               |        |        |
| 14.8                | R95014.8  | R96014.8  | R97014.8  |               |             |             |             |               |        |        |
| 15.0                | R95015.0  | R96015.0  | R97015.0  |               |             |             |             |               |        |        |
| 19/32"              | R95019/32 | R96019/32 | R97019/32 | H85115.0      | H85315.0    | H85515.0    | H85815.0    | H851215.0     |        |        |
| 15.1                | R95015.1  | R96015.1  | R97015.1  | H85139/64     | H85339/64   | H85539/64   |             |               |        |        |
| 15.2                | R95015.2  | R96015.2  | R97015.2  |               |             |             |             |               |        |        |
| 15.24               | R95015.24 | R96015.24 | R97015.24 |               |             |             |             |               |        |        |
| 39/64"              | R95039/64 | R96039/64 | R97039/64 |               |             |             |             |               |        |        |
| 15.5                | R95015.5  | R96015.5  | R97015.5  |               |             |             |             |               |        |        |

| DC<br>[mm] / [inch] | R950      | R960      | R970      | H851<br>1,5xD         | H853<br>3xD           | H855<br>5xD           | H858<br>8xD | H8512<br>12xD | H860   | H861   |
|---------------------|-----------|-----------|-----------|-----------------------|-----------------------|-----------------------|-------------|---------------|--------|--------|
| 15.6                | R95015.6  | R96015.6  | R97015.6  | H85116.0<br>H85141/64 | H85316.0<br>H85341/64 | H85516.0<br>H85541/64 | H85816.0    | H851216.0     |        |        |
| 15.7                | R95015.7  | R96015.7  | R97015.7  |                       |                       |                       |             |               |        |        |
| 5/8"                | R9505/8   | R9605/8   | R9705/8   |                       |                       |                       |             |               |        |        |
| 16.0                | R95016.0  | R96016.0  | R97016.0  |                       |                       |                       |             |               |        |        |
| 16.08               | R95016.08 | R96016.08 | R97016.08 |                       |                       |                       |             |               |        |        |
| 16.1                | R95016.1  | R96016.1  | R97016.1  |                       |                       |                       |             |               |        |        |
| 16.2                | R95016.2  | R96016.2  | R97016.2  |                       |                       |                       |             |               |        |        |
| 16.3                | R95016.3  | R96016.3  | R97016.3  |                       |                       |                       |             |               |        |        |
| 41/64"              | R95041/64 | R96041/64 | R97041/64 |                       |                       |                       |             |               |        |        |
| 16.5                | R95016.5  | R96016.5  | R97016.5  |                       |                       |                       |             |               |        |        |
| 16.6                | R95016.6  | R96016.6  | R97016.6  | H85117.0<br>H85111/16 | H85317.0<br>H85311/16 | H85517.0<br>H85511/16 | H85817.0    | H851217.0     | H860N2 | H861N2 |
| 21/32"              | R95021/32 | R96021/32 | R97021/32 |                       |                       |                       |             |               |        |        |
| 16.7                | R95016.7  | R96016.7  | R97016.7  |                       |                       |                       |             |               |        |        |
| 17.0                | R95017.0  | R96017.0  | R97017.0  |                       |                       |                       |             |               |        |        |
| 43/64"              | R95043/64 | R96043/64 | R97043/64 |                       |                       |                       |             |               |        |        |
| 17.1                | R95017.1  | R96017.1  | R97017.1  |                       |                       |                       |             |               |        |        |
| 17.2                | R95017.2  | R96017.2  | R97017.2  |                       |                       |                       |             |               |        |        |
| 11/16"              | R95011/16 | R96011/16 | R97011/16 |                       |                       |                       |             |               |        |        |
| 17.5                | R95017.5  | R96017.5  | R97017.5  |                       |                       |                       |             |               |        |        |
| 17.6                | R95017.6  | R96017.6  | R97017.6  |                       |                       |                       |             |               |        |        |
| 17.7                | R95017.7  | R96017.7  | R97017.7  | H85118.0<br>H85123/32 | H85318.0<br>H85323/32 | H85518.0<br>H85523/32 | H85818.0    | H851218.0     |        |        |
| 45/64"              | R95045/64 | R96045/64 | R97045/64 |                       |                       |                       |             |               |        |        |
| 18.0                | R95018.0  | R96018.0  | R97018.0  |                       |                       |                       |             |               |        |        |
| 18.1                | R95018.1  | R96018.1  | R97018.1  |                       |                       |                       |             |               |        |        |
| 18.2                | R95018.2  | R96018.2  | R97018.2  |                       |                       |                       |             |               |        |        |
| 23/32"              | R95023/32 | R96023/32 | R97023/32 |                       |                       |                       |             |               |        |        |
| 18.5                | R95018.5  | R96018.5  | R97018.5  |                       |                       |                       |             |               |        |        |
| 18.6                | R95018.6  | R96018.6  | R97018.6  |                       |                       |                       |             |               |        |        |
| 47/64"              | R95047/64 | R96047/64 | R97047/64 |                       |                       |                       |             |               |        |        |
| 18.7                | R95018.7  | R96018.7  | R97018.7  |                       |                       |                       |             |               |        |        |
| 18.9                | R95018.9  | R96018.9  | R97018.9  | H85119.0<br>H85149/64 | H85319.0<br>H85349/64 | H85519.0<br>H85549/64 | H85819.0    | H851219.0     | H860N3 |        |
| 19.0                | R95019.0  | R96019.0  | R97019.0  |                       |                       |                       |             |               |        |        |
| 3/4"                | R9503/4   | R9603/4   | R9703/4   |                       |                       |                       |             |               |        |        |
| 19.1                | R95019.1  | R96019.1  | R97019.1  |                       |                       |                       |             |               |        |        |
| 19.2                | R95019.2  | R96019.2  | R97019.2  |                       |                       |                       |             |               |        |        |
| 19.25               | R95019.25 | R96019.25 | R97019.25 |                       |                       |                       |             |               |        |        |
| 19.3                | R95019.3  | R96019.3  | R97019.3  |                       |                       |                       |             |               |        |        |
| 19.35               | R95019.35 | R96019.35 | R97019.35 |                       |                       |                       |             |               |        |        |
| 49/64"              | R95049/64 | R96049/64 | R97049/64 |                       |                       |                       |             |               |        |        |
| 19.5                | R95019.5  | R96019.5  | R97019.5  |                       |                       |                       |             |               |        |        |
| 19.6                | R95019.6  | R96019.6  | R97019.6  | H85120.0<br>H85151/64 | H85320.0<br>H85351/64 | H85520.0<br>H85551/64 | H85820.0    | H851220.0     |        | H861N3 |
| 19.7                | R95019.7  | R96019.7  | R97019.7  |                       |                       |                       |             |               |        |        |
| 25/32"              | R95025/32 | R96025/32 | R97025/32 |                       |                       |                       |             |               |        |        |
| 20.0                | R95020.0  | R96020.0  | R97020.0  |                       |                       |                       |             |               |        |        |
| 51/64"              | R95051/64 | R96051/64 | R97051/64 |                       |                       |                       |             |               |        |        |
| 20.5                | R95020.5  | R96020.5  | R97020.5  |                       |                       |                       |             |               |        |        |
| 13/16"              | R95013/16 | R96013/16 | R97013/16 |                       |                       |                       |             |               |        |        |
| 21.0                | R95021.0  | R96021.0  | R97021.0  |                       |                       |                       |             |               |        |        |
| 53/64"              | R95053/64 | R96053/64 | R97053/64 |                       |                       |                       |             |               |        |        |
| 27/32"              | R95027/32 | R96027/32 | R97027/32 |                       |                       |                       |             |               |        |        |
| 21.5                | R95021.5  | R96021.5  | R97021.5  | H85121.0<br>H85127/32 | H85321.0<br>H85327/32 | H85521.0<br>H85527/32 | H85821.0    | H851221.0     |        |        |
| 55/64"              | R95055/64 | R96055/64 | R97055/64 |                       |                       |                       |             |               |        |        |
| 22.0                | R95022.0  | R96022.0  | R97022.0  |                       |                       |                       |             |               |        |        |
| 7/8"                | R9507/8   | R9607/8   | R9707/8   |                       |                       |                       |             |               |        |        |
| 22.5                | R95022.5  | R96022.5  | R97022.5  |                       |                       |                       |             |               |        |        |
| 57/64"              | R95057/64 | R96057/64 | R97057/64 |                       |                       |                       |             |               |        |        |
| 22.7                | R95022.7  | R96022.7  | R97022.7  |                       |                       |                       |             |               |        |        |
| 23.0                | R95023.0  | R96023.0  | R97023.0  |                       |                       |                       |             |               |        |        |
| 29/32"              | R95029/32 | R96029/32 | R97029/32 |                       |                       |                       |             |               |        |        |
| 59/64"              | R95059/64 | R96059/64 | R97059/64 |                       |                       |                       |             |               |        |        |
| 23.5                | R95023.5  | R96023.5  | R97023.5  | H85122.0<br>H85157/64 | H85322.0<br>H85357/64 | H85522.0<br>H85557/64 | H85822.0    | H851222.0     | H860N4 |        |
| 29/32"              | R95029/32 | R96029/32 | R97029/32 |                       |                       |                       |             |               |        |        |
| 59/64"              | R95059/64 | R96059/64 | R97059/64 |                       |                       |                       |             |               |        |        |
| 23.5                | R95023.5  | R96023.5  | R97023.5  |                       |                       |                       |             |               |        |        |

| DC<br>[mm] / [inch] | R950        | R960        | R970        | H851<br>1,5xD | H853<br>3xD | H855<br>5xD | H858<br>8xD | H8512<br>12xD | H860   | H861   |
|---------------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|---------------|--------|--------|
| 15/16               | R95015/16   | R96015/16   | R97015/16   |               |             |             |             |               |        |        |
| 24.0                | R95024.0    | R96024.0    | R97024.0    |               |             |             |             |               |        |        |
| 61/64               | R95061/64   | R96061/64   | R97061/64   | H85124.0      | H85324.0    | H85524.0    | H85824.0    | H851224.0     | H860N4 | H861N3 |
| 24.5                | R95024.5    | R96024.5    | R97024.5    | H85131/32     | H85331/32   | H85531/32   |             |               |        |        |
| 31/32"              | R95031/32   | R96031/32   | R97031/32   |               |             |             |             |               |        |        |
| 25.0                | R95025.0    | R96025.0    | R97025.0    |               |             |             |             |               |        |        |
| 63/64"              | R95063/64   | R96063/64   | R97063/64   |               |             |             |             |               |        |        |
| 1"                  | R9501       | R9601       | R9701       | H85125.0      | H85325.0    | H85525.0    | H85825.0    | H851225.0     |        |        |
| 25.5                | R95025.5    | R96025.5    | R97025.5    | H8511.1/64    | H8531.1/64  | H8551.1/64  |             |               |        |        |
| 25.6                | R95025.6    | -           | -           |               |             |             |             |               |        |        |
| 25.65               | R95025.65   | R96025.65   | R97025.65   |               |             |             |             |               |        |        |
| 1.1/64"             | R9501.1/64  | R9601.1/64  | R9701.1/64  |               |             |             |             |               |        |        |
| 26.0                | R95026.0    | R96026.0    | R97026.0    |               |             |             |             |               |        |        |
| 1.1/32"             | R9501.1/32  | R9601.1/32  | R9701.1/32  | H85126.0      | H85326.0    | H85526.0    | H85826.0    | -             | H860N5 | H861N4 |
| 26.5                | R95026.5    | R96026.5    | R97026.5    | H8511.3/64    | H8531.3/64  | H8551.3/64  |             |               |        |        |
| 1.3/64"             | R9501.3/64  | R9601.3/64  | R9701.3/64  |               |             |             |             |               |        |        |
| 1.1/16"             | R9501.1/16  | R9601.1/16  | R9701.1/16  |               |             |             |             |               |        |        |
| 27.0                | R95027.0    | R96027.0    | R97027.0    | H85127.0      | H85327.0    | H85527.0    | H85827.0    | -             |        |        |
| 1.5/64"             | R9501.5/64  | R9601.5/64  | R9701.5/64  | H8511.3/32    | H8531.3/32  | H8551.3/32  |             |               |        |        |
| 27.5                | R95027.5    | R96027.5    | R97027.5    |               |             |             |             |               |        |        |
| 1.3/32"             | R9501.3/32  | R9601.3/32  | R9701.3/32  |               |             |             |             |               |        |        |
| 28.0                | R95028.0    | R96028.0    | R97028.0    |               |             |             |             |               |        |        |
| 1.7/64"             | R9501.7/64  | R9601.7/64  | R9701.7/64  | H85128.0      | H85328.0    | H85528.0    | H85828.0    | -             |        |        |
| 28.5                | R95028.5    | R96028.5    | R97028.5    | H8511.1/8     | H8531.1/8   | H8551.1/8   |             |               |        |        |
| 1.1/8"              | R9501.1/8   | R9601.1/8   | R9701.1/8   |               |             |             |             |               |        |        |
| 1.9/64"             | R9501.9/64  | R9601.9/64  | R9701.9/64  |               |             |             |             |               |        |        |
| 29.0                | R95029.0    | R96029.0    | R97029.0    | H85129.0      | H85329.0    | H85529.0    | H85829.0    | -             |        |        |
| 1.5/32"             | R9501.5/32  | R9601.5/32  | R9701.5/32  | H8511.11/64   | H8531.11/64 | H8551.11/64 |             |               |        |        |
| 29.5                | R95029.5    | R96029.5    | R97029.5    |               |             |             |             |               |        |        |
| 1.11/64"            | R9501.11/64 | R9601.11/64 | R9701.11/64 |               |             |             |             |               |        |        |
| 30.0                | R95030.0    | R96030.0    | R97030.0    |               |             |             |             |               |        |        |
| 1.3/16"             | R9501.3/16  | R9601.3/16  | R9701.3/16  | H85130.0      | H85330.0    | H85530.0    | H85830.0    | -             | H860N6 | H861N5 |
| 30.5                | R95030.5    | R96030.5    | R97030.5    | H8511.3/16    | H8531.3/16  | H8551.3/16  |             |               |        |        |
| 1.7/32"             | R9501.7/32  | -           | R9701.7/32  |               |             |             |             |               |        |        |
| 31.0                | R95031.0    | -           | R97031.0    |               |             |             |             |               |        |        |
| 1.1/4"              | R9501.1/4   | -           | R9701.1/4   | -             | H85332.0    | H85532.0    | H85832.0    | -             |        |        |
| 32.0                | R95032.0    | -           | R97032.0    |               |             |             |             |               |        |        |
| 32.5                | R95032.5    | -           | R97032.5    |               |             |             |             |               |        |        |
| 1.19/64"            | R9501.19/64 | -           | R9701.19/64 |               |             |             |             |               |        |        |
| 33.0                | R95033.0    | -           | R97033.0    | -             | H85333.5    | H85533.5    | H85833.5    | -             |        |        |
| 33.5                | R95033.5    | -           | R97033.5    |               |             |             |             |               |        |        |
| 34.0                | R95034.0    | -           | R97034.0    |               |             |             |             |               |        |        |
| 1.11/32"            | R9501.11/32 | -           | R9701.11/32 |               |             |             |             |               |        |        |
| 34.5                | R95034.5    | -           | R97034.5    | -             | H85335.0    | H85535.0    | H85835.0    | -             |        |        |
| 1.3/8"              | R9501.3/8   | -           | R9701.3/8   |               |             |             |             |               |        |        |
| 35.0                | R95035.0    | -           | R97035.0    |               |             |             |             |               |        |        |
| 36.0                | R95036.0    | -           | R97036.0    |               |             |             |             |               |        |        |
| 1.27/64"            | R9501.27/64 | -           | R9701.27/64 | -             | H85336.5    | H85536.5    | H85836.5    | -             |        |        |
| 36.5                | R95036.5    | -           | R97036.5    |               |             |             |             |               |        |        |
| 37.0                | R95037.0    | -           | R97037.0    |               |             |             |             |               |        |        |
| 1.15/32"            | R9501.15/32 | -           | R9701.15/32 |               |             |             |             |               |        |        |
| 37.5                | R95037.5    | -           | R97037.5    | -             | H85338.0    | H85538.0    | H85838.0    | -             |        |        |
| 38.0                | R95038.0    | -           | R97038.0    |               |             |             |             |               |        |        |
| 1.1/2"              | R9501.1/2   | -           | R9701.1/2   |               |             |             |             |               |        |        |
| 38.5                | R95038.5    | -           | R97038.5    |               |             |             |             |               |        |        |
| 1.17/32"            | R9501.17/32 | -           | R9701.17/32 | -             | H85339.5    | H85539.5    | H85839.5    | -             |        |        |
| 39.0                | R95039.0    | -           | R97039.0    |               |             |             |             |               |        |        |
| 39.5                | R95039.5    | -           | R97039.5    |               |             |             |             |               |        |        |
| 1.9/16"             | R9501.9/16  | -           | R9701.9/16  |               |             |             |             |               |        |        |
| 40.0                | R95040.0    | -           | R97040.0    | -             | H85341.0    | H85541.0    | H85841.0    | -             |        |        |
| 41.0                | R95041.0    | -           | R97041.0    |               |             |             |             |               |        |        |
| 1.5/8"              | R9501.5/8   | -           | R9701.5/8   |               |             |             |             |               |        |        |
| 42.0                | R95042.0    | -           | R97042.0    | -             | H85342.5    | H85542.5    | H85842.5    | -             |        |        |

|                |    | HM                                          | HM                                           | HM                                           | HSS                                                        | HSS                                          | HSS                                          | HSS                        | HSS                                       |                        |                        |
|----------------|----|---------------------------------------------|----------------------------------------------|----------------------------------------------|------------------------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------|-------------------------------------------|------------------------|------------------------|
|                |    |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                |    |                                             |                                              |                                              | 1.5XD                                                      | 3XD                                          | 5XD                                          | 8XD                        | 12XD                                      |                        |                        |
|                |    |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                |    |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                |    |                                             |                                              |                                              | ISO 9706                                                   | DIN 6535HB<br>DIN 6535HE                     | DIN 6535HB<br>DIN 6535HE                     | DIN 6535HB<br>DIN 6535HE   |                                           |                        |                        |
|                |    |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                |    |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                |    | HYDRA                                       | HYDRA                                        | HYDRA                                        | HYDRA                                                      | HYDRA                                        | HYDRA                                        | HYDRA                      | HYDRA                                     | HYDRA                  |                        |
|                |    | <b>R950</b><br>12.0 – 42.0<br>15.32 – 1.5/8 | <b>R960</b><br>12.0 – 30.5<br>15/32 – 1.3/16 | <b>R970</b><br>12.0 – 42.0<br>15/32 – 1.3/16 | <b>H851</b><br>12.0 – 30.0<br>31/64 – 1.3/16<br><b>NEW</b> | <b>H853</b><br>12.0 – 42.5<br>31/64 – 1.3/16 | <b>H855</b><br>12.0 – 42.5<br>31/64 – 1.3/16 | <b>H858</b><br>14.0 – 42.5 | <b>H8512</b><br>14.0 – 25.0<br><b>NEW</b> | <b>H860</b><br>N1 – N7 | <b>H861</b><br>N1 – N6 |
| <b>ISO 513</b> |    |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                |    | 11                                          | 11                                           | 11                                           | 14                                                         | 14                                           | 14                                           | 14                         | 14                                        | 18                     | 18                     |
| <b>P</b>       | P1 | <input checked="" type="checkbox"/>         | <input type="checkbox"/>                     |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | P2 | <input type="checkbox"/>                    |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | P3 | <input type="checkbox"/>                    |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | P4 | <input type="checkbox"/>                    |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
| <b>M</b>       | M1 |                                             | <input type="checkbox"/>                     |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | M2 |                                             | <input type="checkbox"/>                     |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | M3 |                                             | <input type="checkbox"/>                     |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | M4 |                                             | <input type="checkbox"/>                     |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
| <b>K</b>       | K1 | <input checked="" type="checkbox"/>         | <input type="checkbox"/>                     | <input type="checkbox"/>                     |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | K2 | <input type="checkbox"/>                    | <input checked="" type="checkbox"/>          | <input type="checkbox"/>                     |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | K3 | <input type="checkbox"/>                    | <input checked="" type="checkbox"/>          | <input type="checkbox"/>                     |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | K4 | <input type="checkbox"/>                    | <input checked="" type="checkbox"/>          | <input type="checkbox"/>                     |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | K5 | <input type="checkbox"/>                    | <input checked="" type="checkbox"/>          | <input type="checkbox"/>                     |                                                            |                                              |                                              |                            |                                           |                        |                        |
| <b>N</b>       | N1 |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | N2 |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | N3 |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | N4 |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
| <b>S</b>       | S1 |                                             | <input checked="" type="checkbox"/>          |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | S2 |                                             | <input checked="" type="checkbox"/>          |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | S3 |                                             | <input checked="" type="checkbox"/>          |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | S4 |                                             | <input checked="" type="checkbox"/>          |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
| <b>H</b>       | H1 |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | H2 |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | H3 |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |
|                | H4 |                                             |                                              |                                              |                                                            |                                              |                                              |                            |                                           |                        |                        |

# R950

# R960

# R970

Hydra, hlava na ocel.

Hydra, hlava na korozivzdornou ocel.

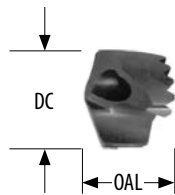
Hydra, hlava na litinu.

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| R950 | P1.1 | P1.2 | P1.3 | P2.1 | P2.2 | P2.3 | P3.1 | P3.2 | P3.3 | P4.1 | P4.2 | P4.3 | M2.3 | M4.2 | K2.1 | K2.2 | K2.3 | K3.1 | K3.2 |
|      | 133W | 148W | 154W | 114W | 100W | 88W  | 125W | 101W | 85W  | 75W  | 63W  | 52T  | 41T  | 35T  | 102V | 88V  | 70V  | 96V  | 73V  |
|      | K3.3 | K4.1 | K4.2 | K4.3 | K4.4 | K4.5 | K5.1 | K5.2 | K5.3 |      |      |      |      |      |      |      |      |      |      |
|      | 59V  | 89V  | 67V  | 49V  | 42V  | 35V  | 100V | 76V  | 58V  |      |      |      |      |      |      |      |      |      |      |
| R960 | P1.1 | P1.2 | P1.3 | P2.1 | M1.1 | M1.2 | M2.1 | M2.2 | M2.3 | M3.1 | M3.2 | M3.3 | M4.1 | M4.2 | K1.1 | K1.2 | K1.3 | K2.1 | K2.2 |
|      | 133W | 148W | 154W | 114W | 82V  | 70V  | 73V  | 60V  | 50T  | 58T  | 50T  | 45T  | 40T  | 34T  | 120V | 89V  | 67V  | 108V | 88V  |
|      | K2.3 | K3.1 | K3.2 | K3.3 | K4.1 | K4.2 | K4.3 | K4.4 | K4.5 | K5.1 | K5.2 | K5.3 | S1.1 | S1.2 | S1.3 | S2.1 | S2.2 | S3.1 | S3.2 |
|      | 70V  | 96V  | 73V  | 59V  | 89V  | 67V  | 49V  | 42V  | 35V  | 100V | 76V  | 58V  | 45T  | 35T  | 30S  | 40S  | 35S  | 30S  | 25S  |
|      | S4.1 | S4.2 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|      | 23S  | 20S  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| R970 | K1.1 | K1.2 | K1.3 | K2.1 | K2.2 | K2.3 | K3.1 | K3.2 | K3.3 | K4.1 | K4.2 | K4.3 | K4.4 | K4.5 | K5.1 | K5.2 | K5.3 |      |      |
|      | 120V | 89V  | 67V  | 98V  | 80V  | 64V  | 97V  | 67V  | 54V  | 81V  | 61V  | 45V  | 38V  | 32V  | 91V  | 69V  | 53V  |      |      |

R950  
R960  
R970



**DORMER**



| R950                         | R960                          | R970                         |
|------------------------------|-------------------------------|------------------------------|
|                              |                               |                              |
| HYDRA                        | HYDRA                         | HYDRA                        |
| 12.0 – 42.0<br>15/32 – 1.5/8 | 12.0 – 30.5<br>15/32 – 1.3/16 | 12.0 – 42.0<br>15/32 – 1.5/8 |

| DC <sub>h</sub><br>[inch] | DC <sub>h</sub><br>[mm] | DC<br>[decimal inch] | OAL<br>[mm] | R950      | R960      | R970      |
|---------------------------|-------------------------|----------------------|-------------|-----------|-----------|-----------|
| 15/32                     | 11.91                   | 0.4688               | 9.1         | R95015/32 | R96015/32 | R97015/32 |
|                           | 12.00                   | 0.4724               | 9.1         | R95012.0  | R96012.0  | R97012.0  |
|                           | 12.10                   | 0.4764               | 9.1         | R95012.1  | R96012.1  | R97012.1  |
|                           | 12.20                   | 0.4803               | 9.1         | R95012.2  | R96012.2  | R97012.2  |
| 31/64                     | 12.30                   | 0.4844               | 9.1         | R95031/64 | R96031/64 | R97031/64 |
|                           | 12.50                   | 0.4921               | 9.4         | R95012.5  | R96012.5  | R97012.5  |
|                           | 12.60                   | 0.4961               | 9.4         | R95012.6  | R96012.6  | R97012.6  |
| 1/2                       | 12.70                   | 0.5000               | 9.4         | R9501/2   | R9601/2   | R9701/2   |
|                           | 12.80                   | 0.5039               | 9.4         | R95012.8  | R96012.8  | R97012.8  |
|                           | 12.90                   | 0.5079               | 9.4         | R95012.9  | R96012.9  | R97012.9  |
|                           | 13.00                   | 0.5118               | 9.7         | R95013.0  | R96013.0  | R97013.0  |
|                           | 13.10                   | 0.5156               | 9.7         | R95033/64 | R96033/64 | R97033/64 |
| 33/64                     | 13.20                   | 0.5197               | 9.7         | R95013.2  | R96013.2  | R97013.2  |
|                           | 13.49                   | 0.5313               | 9.7         | R95017/32 | R96017/32 | R97017/32 |
|                           | 13.50                   | 0.5315               | 10.3        | R95013.5  | R96013.5  | R97013.5  |
|                           | 13.60                   | 0.5354               | 10.3        | R95013.6  | R96013.6  | R97013.6  |
| 35/64                     | 13.70                   | 0.5394               | 10.3        | R95013.7  | R96013.7  | R97013.7  |
|                           | 13.80                   | 0.5433               | 10.3        | R95013.8  | R96013.8  | R97013.8  |
|                           | 13.89                   | 0.5469               | 10.3        | R95035/64 | R96035/64 | R97035/64 |
|                           | 14.00                   | 0.5512               | 10.3        | R95014.0  | R96014.0  | R97014.0  |
|                           | 14.10                   | 0.5551               | 10.3        | R95014.1  | R96014.1  | R97014.1  |
|                           | 14.20                   | 0.5591               | 10.3        | R95014.2  | R96014.2  | R97014.2  |
|                           | 14.29                   | 0.5625               | 10.3        | R9509/16  | R9609/16  | R9709/16  |
|                           | 14.50                   | 0.5709               | 10.3        | R95014.5  | R96014.5  | R97014.5  |
| 9/16                      | 14.60                   | 0.5748               | 11.0        | R95014.6  | R96014.6  | R97014.6  |

| DC h <sub>1</sub> | DC h <sub>2</sub> | DC             | OAL  | R950      | R960      | R970      |
|-------------------|-------------------|----------------|------|-----------|-----------|-----------|
| [inch]            | [mm]              | [decimal inch] | [mm] |           |           |           |
| 37/64             | 14.68             | 0.5781         | 11.0 | R95037/64 | R96037/64 | R97037/64 |
|                   | 14.70             | 0.5787         | 11.0 | R95014.7  | R96014.7  | R97014.7  |
|                   | 14.80             | 0.5827         | 11.0 | R95014.8  | R96014.8  | R97014.8  |
|                   | 15.00             | 0.5906         | 11.0 | R95015.0  | R96015.0  | R97015.0  |
| 19/32             | 15.08             | 0.5938         | 11.0 | R95019/32 | R96019/32 | R97019/32 |
|                   | 15.10             | 0.5945         | 11.0 | R95015.1  | R96015.1  | R97015.1  |
|                   | 15.20             | 0.5984         | 11.0 | R95015.2  | R96015.2  | R97015.2  |
| 39/64             | 15.48             | 0.6094         | 11.0 | R95039/64 | R96039/64 | R97039/64 |
|                   | 15.50             | 0.6102         | 11.0 | R95015.5  | R96015.5  | R97015.5  |
|                   | 15.60             | 0.6142         | 11.6 | R95015.6  | R96015.6  | R97015.6  |
|                   | 15.70             | 0.6181         | 11.6 | R95015.7  | R96015.7  | R97015.7  |
| 5/8               | 15.88             | 0.6250         | 11.6 | R9505/8   | R9605/8   | R9705/8   |
|                   | 16.00             | 0.6299         | 11.6 | R95016.0  | R96016.0  | R97016.0  |
|                   | 16.10             | 0.6339         | 11.6 | R95016.1  | R96016.1  | R97016.1  |
|                   | 16.20             | 0.6378         | 11.6 | R95016.2  | R96016.2  | R97016.2  |
| 41/64             | 16.27             | 0.6406         | 11.6 | R95041/64 | R96041/64 | R97041/64 |
|                   | 16.50             | 0.6496         | 11.6 | R95016.5  | R96016.5  | R97016.5  |
|                   | 16.60             | 0.6535         | 12.2 | R95016.6  | R96016.6  | R97016.6  |
| 21/32             | 16.67             | 0.6563         | 12.2 | R95021/32 | R96021/32 | R97021/32 |
|                   | 16.70             | 0.6575         | 12.2 | R95016.7  | R96016.7  | R97016.7  |
|                   | 17.00             | 0.6693         | 12.2 | R95017.0  | R96017.0  | R97017.0  |
| 43/64             | 17.07             | 0.6719         | 12.2 | R95043/64 | R96043/64 | R97043/64 |
|                   | 17.10             | 0.6732         | 12.2 | R95017.1  | R96017.1  | R97017.1  |
|                   | 17.20             | 0.6772         | 12.2 | R95017.2  | R96017.2  | R97017.2  |
| 11/16             | 17.46             | 0.6875         | 12.2 | R95011/16 | R96011/16 | R97011/16 |
|                   | 17.50             | 0.6890         | 12.2 | R95017.5  | R96017.5  | R97017.5  |
|                   | 17.60             | 0.6929         | 12.9 | R95017.6  | R96017.6  | R97017.6  |
|                   | 17.70             | 0.6969         | 12.9 | R95017.7  | R96017.7  | R97017.7  |
| 45/64             | 17.86             | 0.7031         | 12.9 | R95045/64 | R96045/64 | R97045/64 |
|                   | 18.00             | 0.7087         | 12.9 | R95018.0  | R96018.0  | R97018.0  |
|                   | 18.10             | 0.7126         | 12.9 | R95018.1  | R96018.1  | R97018.1  |
|                   | 18.20             | 0.7165         | 12.9 | R95018.2  | R96018.2  | R97018.2  |
| 23/32             | 18.26             | 0.7188         | 12.9 | R95023/32 | R96023/32 | R97023/32 |
|                   | 18.50             | 0.7283         | 12.9 | R95018.5  | R96018.5  | R97018.5  |
|                   | 18.60             | 0.7323         | 13.5 | R95018.6  | R96018.6  | R97018.6  |
| 47/64             | 18.65             | 0.7344         | 13.5 | R95047/64 | R96047/64 | R97047/64 |
|                   | 18.70             | 0.7362         | 13.5 | R95018.7  | R96018.7  | R97018.7  |
|                   | 18.90             | 0.7441         | 13.5 | R95018.9  | R96018.9  | R97018.9  |
|                   | 19.00             | 0.7480         | 13.5 | R95019.0  | R96019.0  | R97019.0  |
| 3/4               | 19.05             | 0.7500         | 13.5 | R9503/4   | R9603/4   | R9703/4   |
|                   | 19.10             | 0.7520         | 13.5 | R95019.1  | R96019.1  | R97019.1  |
|                   | 19.20             | 0.7559         | 13.5 | R95019.2  | R96019.2  | R97019.2  |
|                   | 19.25             | 0.7579         | 13.5 | R95019.25 | R96019.25 | R97019.25 |
| 49/64             | 19.45             | 0.7656         | 13.5 | R95049/64 | R96049/64 | R97049/64 |
|                   | 19.50             | 0.7677         | 13.5 | R95019.5  | R96019.5  | R97019.5  |
|                   | 19.60             | 0.7717         | 14.1 | R95019.6  | R96019.6  | R97019.6  |
|                   | 19.70             | 0.7756         | 14.1 | R95019.7  | R96019.7  | R97019.7  |
| 25/32             | 19.84             | 0.7813         | 14.1 | R95025/32 | R96025/32 | R97025/32 |
|                   | 20.00             | 0.7874         | 14.1 | R95020.0  | R96020.0  | R97020.0  |
| 51/64             | 20.24             | 0.7969         | 14.1 | R95051/64 | R96051/64 | R97051/64 |
|                   | 20.50             | 0.8071         | 14.1 | R95020.5  | R96020.5  | R97020.5  |
| 13/16             | 20.64             | 0.8125         | 14.8 | R95013/16 | R96013/16 | R97013/16 |
|                   | 21.00             | 0.8268         | 14.8 | R95021.0  | R96021.0  | R97021.0  |
| 53/64             | 21.03             | 0.8281         | 14.8 | R95053/64 | R96053/64 | R97053/64 |
| 27/32             | 21.43             | 0.8438         | 14.8 | R95027/32 | R96027/32 | R97027/32 |
|                   | 21.50             | 0.8465         | 14.8 | R95021.5  | R96021.5  | R97021.5  |
| 55/64             | 21.83             | 0.8594         | 15.0 | R95055/64 | R96055/64 | R97055/64 |
|                   | 22.00             | 0.8661         | 15.0 | R95022.0  | R96022.0  | R97022.0  |
| 7/8               | 22.22             | 0.8750         | 15.0 | R9507/8   | R9607/8   | R9707/8   |
|                   | 22.50             | 0.8858         | 15.0 | R95022.5  | R96022.5  | R97022.5  |
| 57/64             | 22.62             | 0.8906         | 15.0 | R95057/64 | R96057/64 | R97057/64 |
|                   | 22.70             | 0.8937         | 15.0 | R95022.7  | R96022.7  | R97022.7  |
|                   | 23.00             | 0.9055         | 15.1 | R95023.0  | R96023.0  | R97023.0  |
| 29/32             | 23.02             | 0.9063         | 15.1 | R95029/32 | R96029/32 | R97029/32 |
| 59/64             | 23.42             | 0.9219         | 15.1 | R95059/64 | R96059/64 | R97059/64 |

| DC h <sub>7</sub><br>[inch] | DC h <sub>7</sub><br>[mm] | DC<br>[decimal inch] | OAL<br>[mm] | R950        | R960        | R970        |
|-----------------------------|---------------------------|----------------------|-------------|-------------|-------------|-------------|
|                             | 23.50                     | 0.9252               | 15.1        | R95023.5    | R96023.5    | R97023.5    |
| 15/16                       | 23.81                     | 0.9375               | 15.4        | R95015/16   | R96015/16   | R97015/16   |
|                             | 24.00                     | 0.9449               | 15.4        | R95024.0    | R96024.0    | R97024.0    |
| 61/64                       | 24.21                     | 0.9531               | 15.4        | R95061/64   | R96061/64   | R97061/64   |
|                             | 24.50                     | 0.9646               | 15.4        | R95024.5    | R96024.5    | R97024.5    |
| 31/32                       | 24.61                     | 0.9688               | 15.4        | R95031/32   | R96031/32   | R97031/32   |
|                             | 25.00                     | 0.9844               | 15.8        | R95025.0    | R96025.0    | R97025.0    |
| 63/64                       | 25.00                     | 0.9844               | 15.8        | R95025.0    | R96025.0    | R97025.0    |
| 1"                          | 25.40                     | 1.0000               | 15.8        | R9501       | R9601       | R9701       |
|                             | 25.50                     | 1.0039               | 15.8        | R95025.5    | R96025.5    | R97025.5    |
|                             | 25.65                     | 1.0098               | 15.8        | R95025.65   | R96025.65   | R97025.65   |
| 1.1/64                      | 25.80                     | 1.0156               | 15.8        | R9501.1/64  | R9601.1/64  | R9701.1/64  |
|                             | 26.00                     | 1.0236               | 16.4        | R95026.0    | R96026.0    | R97026.0    |
| 1.1/32                      | 26.19                     | 1.0313               | 16.4        | R9501.1/32  | R9601.1/32  | R9701.1/32  |
|                             | 26.50                     | 1.0433               | 16.4        | R95026.5    | R96026.5    | R97026.5    |
| 1.3/64                      | 26.59                     | 1.0469               | 16.4        | R9501.3/64  | R9601.3/64  | R9701.3/64  |
| 1.1/16                      | 26.99                     | 1.0625               | 17.1        | R9501.1/16  | R9601.1/16  | R9701.1/16  |
|                             | 27.00                     | 1.0630               | 17.1        | R95027.0    | R96027.0    | R97027.0    |
| 1.5/64                      | 27.38                     | 1.0781               | 17.1        | R9501.5/64  | R9601.5/64  | R9701.5/64  |
|                             | 27.50                     | 1.0827               | 17.1        | R95027.5    | R96027.5    | R97027.5    |
| 1.3/32                      | 27.78                     | 1.0938               | 17.1        | R9501.3/32  | R9601.3/32  | R9701.3/32  |
|                             | 28.00                     | 1.1024               | 17.7        | R95028.0    | R96028.0    | R97028.0    |
| 1.7/64                      | 28.18                     | 1.1094               | 17.7        | R9501.7/64  | R9601.7/64  | R9701.7/64  |
|                             | 28.50                     | 1.1220               | 17.7        | R95028.5    | R96028.5    | R97028.5    |
| 1.1/8                       | 28.58                     | 1.1250               | 17.7        | R9501.1/8   | R9601.1/8   | R9701.1/8   |
| 1.9/64                      | 28.97                     | 1.1406               | 18.3        | R9501.9/64  | R9601.9/64  | R9701.9/64  |
|                             | 29.00                     | 1.1417               | 18.3        | R95029.0    | R96029.0    | R97029.0    |
| 1.5/32                      | 29.37                     | 1.1563               | 18.3        | R9501.5/32  | R9601.5/32  | R9701.5/32  |
|                             | 29.50                     | 1.1614               | 18.3        | R95029.5    | R96029.5    | R97029.5    |
| 1.11/64                     | 29.77                     | 1.1719               | 18.3        | R9501.11/64 | R9601.11/64 | R9701.11/64 |
|                             | 30.00                     | 1.1811               | 19.0        | R95030.0    | R96030.0    | R97030.0    |
| 1.3/16                      | 30.16                     | 1.1875               | 19.0        | R9501.3/16  | R9601.3/16  | R9701.3/16  |
|                             | 30.50                     | 1.2008               | 19.0        | R95030.5    | R96030.5    | R97030.5    |
| 1.7/32                      | 30.96                     | 1.2188               | 21.0        | R9501.7/32  |             | R9701.7/32  |
|                             | 31.00                     | 1.2205               | 21.0        | R95031.0    |             | R97031.0    |
| 1.1/4                       | 31.75                     | 1.2500               | 21.0        | R9501.1/4   |             | R9701.1/4   |
|                             | 32.00                     | 1.2598               | 21.0        | R95032.0    |             | R97032.0    |
|                             | 32.50                     | 1.2795               | 21.0        | R95032.5    |             | R97032.5    |
| 1.19/64                     | 32.94                     | 1.2969               | 21.0        | R9501.19/64 |             | R9701.19/64 |
|                             | 33.00                     | 1.2992               | 21.0        | R95033.0    |             | R97033.0    |
|                             | 33.50                     | 1.3189               | 21.0        | R95033.5    |             | R97033.5    |
|                             | 34.00                     | 1.3386               | 23.0        | R95034.0    |             | R97034.0    |
| 1.11/32                     | 34.13                     | 1.3438               | 23.0        | R9501.11/32 |             | R9701.11/32 |
|                             | 34.50                     | 1.3583               | 23.0        | R95034.5    |             | R97034.5    |
| 1.3/8                       | 34.93                     | 1.3750               | 23.0        | R9501.3/8   |             | R9701.3/8   |
|                             | 35.00                     | 1.3780               | 23.0        | R95035.0    |             | R97035.0    |
|                             | 36.00                     | 1.4173               | 23.0        | R95036.0    |             | R97036.0    |
| 1.27/64                     | 36.12                     | 1.4219               | 23.0        | R9501.27/64 |             | R9701.27/64 |
|                             | 36.50                     | 1.4370               | 23.0        | R95036.5    |             | R97036.5    |
|                             | 37.00                     | 1.4567               | 25.0        | R95037.0    |             | R97037.0    |
| 1.15/32                     | 37.31                     | 1.4688               | 25.0        | R9501.15/32 |             | R9701.15/32 |
|                             | 37.50                     | 1.4764               | 25.0        | R95037.5    |             | R97037.5    |
|                             | 38.00                     | 1.4961               | 25.0        | R95038.0    |             | R97038.0    |
| 1.1/2                       | 38.10                     | 1.5000               | 25.0        | R9501.1/2   |             | R9701.1/2   |
|                             | 38.50                     | 1.5157               | 25.0        | R95038.5    |             | R97038.5    |
| 1.17/32                     | 38.89                     | 1.5313               | 25.0        | R9501.17/32 |             | R9701.17/32 |
|                             | 39.00                     | 1.5354               | 25.0        | R95039.0    |             | R97039.0    |
|                             | 39.50                     | 1.5551               | 25.0        | R95039.5    |             | R97039.5    |
| 1.9/16                      | 39.69                     | 1.5625               | 27.0        | R9501.9/16  |             | R9701.9/16  |
|                             | 40.00                     | 1.5748               | 27.0        | R95040.0    |             | R97040.0    |
|                             | 41.00                     | 1.6142               | 27.0        | R95041.0    |             | R97041.0    |
| 1.5/8                       | 41.28                     | 1.6250               | 27.0        | R9501.5/8   |             | R9701.5/8   |
|                             | 42.00                     | 1.6535               | 27.0        | R95042.0    |             | R97042.0    |

# H851

Vrták Hydra tělo 1.5xD. Tělo vrtáku obsahuje čtyři (4) šroubky a jeden (1) šroubovák.

# H853

Vrták Hydra tělo 3xD. Tělo vrtáku obsahuje čtyři (4) šroubky a jeden (1) šroubovák.

# H855

Vrták Hydra tělo 5xD. Tělo vrtáku obsahuje čtyři (4) šroubky a jeden (1) šroubovák.

# H858

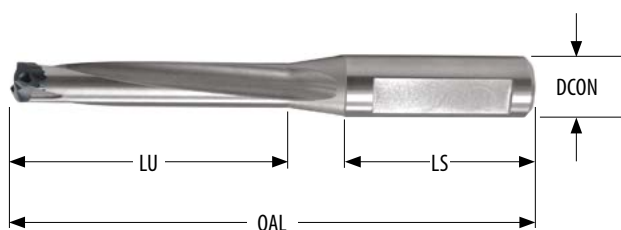
Vrták Hydra tělo 8xD. Tělo vrtáku obsahuje čtyři (4) šroubky a jeden (1) šroubovák.

# H8512

Vrták Hydra tělo 12xD. Tělo vrtáku obsahuje čtyři (4) šroubky a jeden (1) šroubovák.

|              |                                                                                  |
|--------------|----------------------------------------------------------------------------------|
| <b>H851</b>  | Pro hodnoty řezné rychlosti a posuvu nutno aplikovat korekční faktor <b>1.10</b> |
| <b>H853</b>  | Pro hodnoty řezné rychlosti a posuvu nutno aplikovat korekční faktor <b>1.00</b> |
| <b>H855</b>  | Pro hodnoty řezné rychlosti a posuvu nutno aplikovat korekční faktor <b>0.95</b> |
| <b>H858</b>  | Pro hodnoty řezné rychlosti a posuvu nutno aplikovat korekční faktor <b>0.90</b> |
| <b>H8512</b> | Pro hodnoty řezné rychlosti a posuvu nutno aplikovat korekční faktor <b>0.80</b> |

|              |     |  |       |  |                          |  |  |  |
|--------------|-----|--|-------|--|--------------------------|--|--|--|
| <b>H851</b>  | HSS |  | 1.5XD |  | ISO 9766                 |  |  |  |
| <b>H853</b>  | HSS |  | 3XD   |  | DIN 6535HB<br>DIN 6535HE |  |  |  |
| <b>H855</b>  | HSS |  | 5XD   |  | DIN 6535HB<br>DIN 6535HE |  |  |  |
| <b>H858</b>  | HSS |  | 8XD   |  | DIN 6535HB<br>DIN 6535HE |  |  |  |
| <b>H8512</b> | HSS |  | 12XD  |  |                          |  |  |  |



| H851                          | H853                          | H855                          | H858        | H8512               |
|-------------------------------|-------------------------------|-------------------------------|-------------|---------------------|
|                               |                               |                               |             |                     |
| <b>NEW</b><br>HYDRA           | HYDRA                         | HYDRA                         | HYDRA       | <b>NEW</b><br>HYDRA |
| 12.0 – 30.0<br>31/64 – 1.3/16 | 12.0 – 42.5<br>31/64 – 1.3/16 | 12.0 – 42.5<br>31/64 – 1.3/16 | 14.0 – 42.5 | 14.0 – 25.0         |

| DCON h <sub>6</sub> | DCON h <sub>6</sub> | LU   | OAL   | LS    | ADINTMS   | H851             | H853             | H855             | H858 | H8512 |
|---------------------|---------------------|------|-------|-------|-----------|------------------|------------------|------------------|------|-------|
| [inch]              | [mm]                | [mm] | [mm]  | [mm]  |           |                  |                  |                  |      |       |
|                     | 16.00               | 25.5 | 88.5  | 48.0  | ISO9766   | <b>H85112.0</b>  |                  |                  |      |       |
|                     | 16.00               | 44.0 | 105.0 | 48.0  | DIN6535HE |                  | <b>H85312.0</b>  |                  |      |       |
|                     | 16.00               | 69.0 | 130.0 | 48.0  | DIN6535HE |                  |                  | <b>H85512.0</b>  |      |       |
| 5/8                 | 15.88               | 25.5 | 88.5  | 47.63 |           | <b>H85131/64</b> |                  |                  |      |       |
| 5/8                 | 15.88               | 44.0 | 105.0 | 48.0  | DIN6535HB |                  | <b>H85331/64</b> |                  |      |       |
| 5/8                 | 15.88               | 69.0 | 130.0 | 48.0  | DIN6535HB |                  |                  | <b>H85531/64</b> |      |       |
|                     | 16.00               | 25.8 | 88.8  | 48.0  | ISO9766   | <b>H85112.5</b>  |                  |                  |      |       |
|                     | 16.00               | 44.0 | 105.0 | 48.0  | DIN6535HE |                  | <b>H85312.5</b>  |                  |      |       |
|                     | 16.00               | 69.0 | 130.0 | 48.0  | DIN6535HE |                  |                  | <b>H85512.5</b>  |      |       |



| DCON h <sub>e</sub> | DCON h <sub>e</sub> | LU    | OAL   | LS    | ADINTMS   | H851      | H853      | H855      | H858     | H8512     |
|---------------------|---------------------|-------|-------|-------|-----------|-----------|-----------|-----------|----------|-----------|
| [inch]              | [mm]                | [mm]  | [mm]  | [mm]  |           |           |           |           |          |           |
| 5/8                 | 15.88               | 25.8  | 88.8  | 47.63 |           | H8511/2   |           |           |          |           |
| 5/8                 | 15.88               | 44.0  | 105.0 | 48.0  | DIN6535HB |           | H8531/2   |           |          |           |
| 5/8                 | 15.88               | 69.0  | 130.0 | 48.0  | DIN6535HB |           |           | H8551/2   |          |           |
|                     | 16.00               | 27.0  | 90.0  | 48.0  | ISO9766   | H85113.0  |           |           |          |           |
|                     | 16.00               | 47.0  | 110.0 | 48.0  | DIN6535HE |           | H85313.0  |           |          |           |
|                     | 16.00               | 74.0  | 140.0 | 48.0  | DIN6535HE |           |           | H85513.0  |          |           |
| 5/8                 | 15.88               | 30.9  | 93.9  | 47.63 |           | H85117/32 |           |           |          |           |
| 5/8                 | 15.88               | 47.0  | 110.0 | 48.0  | DIN6535HB |           | H85317/32 |           |          |           |
| 5/8                 | 15.88               | 74.0  | 140.0 | 48.0  | DIN6535HB |           |           | H85517/32 |          |           |
|                     | 16.00               | 30.9  | 93.9  | 48.0  | DIN6535HE | H85114.0  |           |           |          |           |
|                     | 16.00               | 52.5  | 116.5 | 48.0  | DIN6535HE |           | H85314.0  |           |          |           |
|                     | 16.00               | 81.5  | 146.5 | 48.0  | DIN6535HE |           |           | H85514.0  |          |           |
|                     | 16.00               | 124.5 | 191.5 | 48.0  | DIN6535HE |           |           |           | H85814.0 |           |
|                     | 16.00               | 168.0 | 236.0 | 48.0  |           |           |           |           |          | H851214.0 |
| 3/4                 | 19.05               | 30.3  | 93.9  | 50.8  |           | H8519/16  |           |           |          |           |
| 3/4                 | 19.05               | 52.5  | 116.5 | 48.0  | DIN6535HB |           | H8539/16  |           |          |           |
| 3/4                 | 19.05               | 81.5  | 146.5 | 48.0  | DIN6535HB |           |           | H8559/16  |          |           |
|                     | 20.00               | 32.3  | 97.3  | 50.0  | ISO9766   | H85115.0  |           |           |          |           |
|                     | 20.00               | 55.5  | 126.5 | 50.0  | DIN6535HE |           | H85315.0  |           |          |           |
|                     | 20.00               | 86.5  | 156.5 | 50.0  | DIN6535HE |           |           | H85515.0  |          |           |
|                     | 20.00               | 133.5 | 201.5 | 50.0  | DIN6535HE |           |           |           | H85815.0 |           |
|                     | 20.00               | 180.0 | 250.3 | 50.0  |           |           |           |           |          | H851215.0 |
| 3/4                 | 19.05               | 32.3  | 97.3  | 50.8  |           | H85139/64 |           |           |          |           |
| 3/4                 | 19.05               | 55.5  | 126.5 | 50.0  | DIN6535HB |           | H85339/64 |           |          |           |
| 3/4                 | 19.05               | 86.5  | 156.5 | 50.0  | DIN6535HB |           |           | H85539/64 |          |           |
|                     | 20.00               | 34.9  | 99.9  | 50.0  | ISO9766   | H85116.0  |           |           |          |           |
|                     | 20.00               | 59.5  | 131.5 | 50.0  | DIN6535HE |           | H85316.0  |           |          |           |
|                     | 20.00               | 92.5  | 166.5 | 50.0  | DIN6535HE |           |           | H85516.0  |          |           |
|                     | 20.00               | 141.5 | 211.5 | 50.0  | DIN6535HE |           |           |           | H85816.0 |           |
|                     | 20.00               | 192.0 | 262.6 | 50.0  |           |           |           |           |          | H851216.0 |
| 3/4                 | 19.05               | 34.9  | 99.9  | 50.8  |           | H85141/64 |           |           |          |           |
| 3/4                 | 19.05               | 59.5  | 131.5 | 50.0  | DIN6535HB |           | H85341/64 |           |          |           |
| 3/4                 | 19.05               | 92.5  | 166.5 | 50.0  | DIN6535HB |           |           | H85541/64 |          |           |
|                     | 20.00               | 36.4  | 101.4 | 50.0  | ISO9766   | H85117.0  |           |           |          |           |
|                     | 20.00               | 62.5  | 136.5 | 50.0  | DIN6535HE |           | H85317.0  |           |          |           |
|                     | 20.00               | 97.5  | 171.5 | 50.0  | DIN6535HE |           |           | H85517.0  |          |           |
|                     | 20.00               | 150.5 | 221.5 | 50.0  | DIN6535HE |           |           |           | H85817.0 |           |
|                     | 20.00               | 204.0 | 275.0 | 50.0  |           |           |           |           |          | H851217.0 |
| 3/4                 | 19.05               | 36.4  | 101.4 | 50.8  |           | H85111/16 |           |           |          |           |
| 3/4                 | 19.05               | 62.5  | 136.5 | 50.0  | DIN6535HB |           | H85311/16 |           |          |           |
| 3/4                 | 19.05               | 97.5  | 171.5 | 50.0  | DIN6535HB |           |           | H85511/16 |          |           |
|                     | 20.00               | 39.0  | 104.0 | 50.0  | ISO9766   | H85118.0  |           |           |          |           |
|                     | 20.00               | 66.5  | 141.5 | 50.0  | DIN6535HE |           | H85318.0  |           |          |           |
|                     | 20.00               | 103.5 | 176.5 | 50.0  | DIN6535HE |           |           | H85518.0  |          |           |
|                     | 20.00               | 158.5 | 226.5 | 50.0  | DIN6535HE |           |           |           | H85818.0 |           |
|                     | 20.00               | 216.0 | 287.2 | 50.0  |           |           |           |           |          | H851218.0 |
| 3/4                 | 19.05               | 39.0  | 104.0 | 50.8  |           | H85123/32 |           |           |          |           |
| 3/4                 | 19.05               | 66.5  | 141.5 | 50.0  | DIN6535HB |           | H85323/32 |           |          |           |
| 3/4                 | 19.05               | 103.5 | 176.5 | 50.0  | DIN6535HB |           |           | H85523/32 |          |           |
|                     | 25.00               | 40.4  | 111.4 | 56.0  | ISO9766   | H85119.0  |           |           |          |           |
|                     | 25.00               | 69.5  | 156.5 | 56.0  | DIN6535HE |           | H85319.0  |           |          |           |
|                     | 25.00               | 108.5 | 191.5 | 56.0  | DIN6535HE |           |           | H85519.0  |          |           |
|                     | 25.00               | 167.5 | 251.5 | 56.0  | DIN6535HE |           |           |           | H85819.0 |           |
|                     | 25.00               | 228.0 | 305.6 | 56.0  |           |           |           |           |          | H851219.0 |
| 1"                  | 25.40               | 40.4  | 111.4 | 57.15 |           | H85149/64 |           |           |          |           |
| 1"                  | 25.40               | 69.5  | 156.5 | 56.0  | DIN6535HB |           | H85349/64 |           |          |           |
| 1"                  | 25.40               | 108.5 | 191.5 | 56.0  | DIN6535HB |           |           | H85549/64 |          |           |
|                     | 25.00               | 43.0  | 114.0 | 56.0  | ISO9766   | H85120.0  |           |           |          |           |
|                     | 25.00               | 73.5  | 156.5 | 56.0  | DIN6535HE |           | H85320.0  |           |          |           |
|                     | 25.00               | 114.5 | 196.5 | 56.0  | DIN6535HE |           |           | H85520.0  |          |           |
|                     | 25.00               | 175.5 | 264.5 | 56.0  | DIN6535HE |           |           |           | H85820.0 |           |
|                     | 25.00               | 240.0 | 317.8 | 56.0  |           |           |           |           |          | H851220.0 |

| DCON h <sub>6</sub> | DCON h <sub>6</sub> | LU    | OAL   | LS    | ADINTMS   | H851       | H853       | H855       | H858     | H8512     |
|---------------------|---------------------|-------|-------|-------|-----------|------------|------------|------------|----------|-----------|
| [inch]              | [mm]                | [mm]  | [mm]  | [mm]  |           |            |            |            |          |           |
| 1"                  | 25.40               | 43.0  | 114.0 | 57.15 |           | H85151/64  |            |            |          |           |
| 1"                  | 25.40               | 73.5  | 156.5 | 56.0  | DIN6535HB |            | H85351/64  |            |          |           |
| 1"                  | 25.40               | 114.5 | 196.5 | 56.0  | DIN6535HB |            |            | H85551/64  |          |           |
|                     | 25.00               | 44.5  | 115.5 | 56.0  | ISO9766   | H85121.0   |            |            |          |           |
|                     | 25.00               | 76.5  | 156.5 | 56.0  | DIN6535HE |            | H85321.0   |            |          |           |
|                     | 25.00               | 119.5 | 196.5 | 56.0  | DIN6535HE |            |            | H85521.0   |          |           |
|                     | 25.00               | 184.5 | 266.5 | 56.0  | DIN6535HE |            |            |            | H85821.0 |           |
|                     | 25.00               | 252.0 | 330.1 | 56.0  |           |            |            |            |          | H851221.0 |
| 1"                  | 25.40               | 44.5  | 115.5 | 57.15 |           | H85127/32  |            |            |          |           |
| 1"                  | 25.40               | 76.5  | 156.5 | 56.0  | DIN6535HB |            | H85327/32  |            |          |           |
| 1"                  | 25.40               | 119.5 | 196.5 | 56.0  | DIN6535HB |            |            | H85527/32  |          |           |
|                     | 25.00               | 46.1  | 117.1 | 56.0  | ISO9766   | H85122.0   |            |            |          |           |
|                     | 25.00               | 80.1  | 161.5 | 56.0  | DIN6535HE |            | H85322.0   |            |          |           |
|                     | 25.00               | 125.1 | 201.1 | 56.0  | DIN6535HE |            |            | H85522.0   |          |           |
|                     | 25.00               | 192.1 | 271.1 | 56.0  | DIN6535HE |            |            |            | H85822.0 |           |
|                     | 25.00               | 264.0 | 343.0 | 56.0  |           |            |            |            |          | H851222.0 |
| 1"                  | 25.40               | 46.1  | 117.1 | 57.15 |           | H85157/64  |            |            |          |           |
| 1"                  | 25.40               | 80.1  | 161.5 | 56.0  | DIN6535HB |            | H85357/64  |            |          |           |
| 1"                  | 25.40               | 125.1 | 201.1 | 56.0  | DIN6535HB |            |            | H85557/64  |          |           |
|                     | 25.00               | 47.0  | 118.0 | 56.0  | ISO9766   | H85123.0   |            |            |          |           |
|                     | 25.00               | 82.5  | 160.5 | 56.0  | DIN6535HE |            | H85323.0   |            |          |           |
|                     | 25.00               | 129.5 | 210.5 | 56.0  | DIN6535HE |            |            | H85523.0   |          |           |
|                     | 25.00               | 200.5 | 280.5 | 56.0  | DIN6535HE |            |            |            | H85823.0 |           |
|                     | 25.00               | 276.0 | 354.8 | 56.0  |           |            |            |            |          | H851223.0 |
| 1"                  | 25.40               | 47.0  | 118.0 | 57.15 |           | H85159/64  |            |            |          |           |
| 1"                  | 25.40               | 82.5  | 160.5 | 56.0  | DIN6535HB |            | H85359/64  |            |          |           |
| 1"                  | 25.40               | 129.5 | 210.5 | 56.0  | DIN6535HB |            |            | H85559/64  |          |           |
|                     | 32.00               | 49.3  | 124.3 | 60.0  | ISO9766   | H85124.0   |            |            |          |           |
|                     | 32.00               | 86.2  | 170.2 | 60.0  | DIN6535HE |            | H85324.0   |            |          |           |
|                     | 32.00               | 135.2 | 220.2 | 60.0  | DIN6535HE |            |            | H85524.0   |          |           |
|                     | 32.00               | 208.2 | 295.2 | 60.0  | DIN6535HE |            |            |            | H85824.0 |           |
|                     | 32.00               | 288.0 | 371.7 | 60.0  |           |            |            |            |          | H851224.0 |
| 1"                  | 25.40               | 49.3  | 124.3 | 57.15 |           | H85131/32  |            |            |          |           |
| 1"                  | 25.40               | 86.2  | 170.2 | 60.0  | DIN6535HB |            | H85331/32  |            |          |           |
| 1"                  | 25.40               | 135.2 | 220.2 | 60.0  | DIN6535HB |            |            | H85531/32  |          |           |
|                     | 32.00               | 49.7  | 124.7 | 60.0  | ISO9766   | H85125.0   |            |            |          |           |
|                     | 32.00               | 88.0  | 170.0 | 60.0  | DIN6535HE |            | H85325.0   |            |          |           |
|                     | 32.00               | 140.0 | 225.0 | 60.0  | DIN6535HE |            |            | H85525.0   |          |           |
|                     | 32.00               | 217.0 | 300.0 | 60.0  | DIN6535HE |            |            |            | H85825.0 |           |
|                     | 32.00               | 300.0 | 383.8 | 60.0  |           |            |            |            |          | H851225.0 |
| 1.1/4               | 31.75               | 49.7  | 124.7 | 60.33 |           | H8511.1/64 |            |            |          |           |
| 1.1/4               | 31.75               | 88.0  | 170.0 | 60.0  | DIN6535HB |            | H8531.1/64 |            |          |           |
| 1.1/4               | 31.75               | 140.0 | 225.0 | 60.0  | DIN6535HB |            |            | H8551.1/64 |          |           |
|                     | 32.00               | 52.3  | 127.3 | 60.0  | ISO9766   | H85126.0   |            |            |          |           |
|                     | 32.00               | 92.0  | 175.0 | 60.0  | DIN6535HE |            | H85326.0   |            |          |           |
|                     | 32.00               | 146.0 | 230.0 | 60.0  | DIN6535HE |            |            | H85526.0   |          |           |
|                     | 32.00               | 225.0 | 310.0 | 60.0  | DIN6535HE |            |            |            | H85826.0 |           |
| 1.1/4               | 31.75               | 52.3  | 127.3 | 60.33 |           | H8511.3/64 |            |            |          |           |
| 1.1/4               | 31.75               | 92.0  | 175.0 | 60.0  | DIN6535HB |            | H8531.3/64 |            |          |           |
| 1.1/4               | 31.75               | 146.0 | 230.0 | 60.0  | DIN6535HB |            |            | H8551.3/64 |          |           |
|                     | 32.00               | 52.8  | 127.8 | 60.0  | ISO9766   | H85127.0   |            |            |          |           |
|                     | 32.00               | 94.0  | 175.0 | 60.0  | DIN6535HE |            | H85327.0   |            |          |           |
|                     | 32.00               | 151.0 | 235.0 | 60.0  | DIN6535HE |            |            | H85527.0   |          |           |
|                     | 32.00               | 234.0 | 320.0 | 60.0  | DIN6535HE |            |            |            | H85827.0 |           |
| 1.1/4               | 31.75               | 52.8  | 127.8 | 60.33 |           | H8511.3/32 |            |            |          |           |
| 1.1/4               | 31.75               | 94.0  | 175.0 | 60.0  | DIN6535HB |            | H8531.3/32 |            |          |           |
| 1.1/4               | 31.75               | 151.0 | 235.0 | 60.0  | DIN6535HB |            |            | H8551.3/32 |          |           |
|                     | 32.00               | 54.4  | 129.4 | 60.0  | ISO9766   | H85128.0   |            |            |          |           |
|                     | 32.00               | 97.0  | 180.0 | 60.0  | DIN6535HE |            | H85328.0   |            |          |           |
|                     | 32.00               | 157.0 | 240.0 | 60.0  | DIN6535HE |            |            | H85528.0   |          |           |
|                     | 32.00               | 242.0 | 325.0 | 60.0  | DIN6535HE |            |            |            | H85828.0 |           |
| 1.1/4               | 31.75               | 54.4  | 129.4 | 60.33 |           | H8511.1/8  |            |            |          |           |

| DCON h <sub>6</sub> | DCON h <sub>6</sub> | LU    | OAL   | LS    | ADINTMS   | H851        | H853        | H855        | H858     | H8512 |
|---------------------|---------------------|-------|-------|-------|-----------|-------------|-------------|-------------|----------|-------|
| [inch]              | [mm]                | [mm]  | [mm]  | [mm]  |           |             |             |             |          |       |
| 1.1/4               | 31.75               | 97.0  | 180.0 | 60.0  | DIN6535HB |             | H8531.1/8   |             |          |       |
| 1.1/4               | 31.75               | 157.0 | 240.0 | 60.0  | DIN6535HB |             |             | H8551.1/8   |          |       |
|                     | 32.00               | 55.8  | 130.8 | 60.0  | ISO9766   | H85129.0    |             |             |          |       |
|                     | 32.00               | 100.0 | 185.0 | 60.0  | DIN6535HE |             | H85329.0    |             |          |       |
|                     | 32.00               | 162.0 | 245.0 | 60.0  | DIN6535HE |             |             | H85529.0    |          |       |
|                     | 32.00               | 251.0 | 335.0 | 60.0  | DIN6535HE |             |             |             | H85829.0 |       |
| 1.1/4               | 31.75               | 55.8  | 130.8 | 60.33 |           | H8511.11/64 |             |             |          |       |
| 1.1/4               | 31.75               | 100.0 | 185.0 | 60.0  | DIN6535HB |             | H8531.11/64 |             |          |       |
| 1.1/4               | 31.75               | 162.0 | 245.0 | 60.0  | DIN6535HB |             |             | H8551.11/64 |          |       |
|                     | 32.00               | 58.4  | 133.4 | 60.0  | ISO9766   | H85130.0    |             |             |          |       |
|                     | 32.00               | 104.0 | 185.0 | 60.0  | DIN6535HE |             | H85330.0    |             |          |       |
|                     | 32.00               | 167.0 | 255.0 | 60.0  | DIN6535HE |             |             | H85530.0    |          |       |
|                     | 32.00               | 259.0 | 345.0 | 60.0  | DIN6535HE |             |             |             | H85830.0 |       |
| 1.1/4               | 31.75               | 58.4  | 133.4 | 60.33 |           | H8511.3/16  |             |             |          |       |
| 1.1/4               | 31.75               | 104.0 | 185.0 | 60.0  | DIN6535HB |             | H8531.3/16  |             |          |       |
| 1.1/4               | 31.75               | 167.0 | 255.0 | 60.0  | DIN6535HB |             |             | H8551.3/16  |          |       |
|                     | 32.00               | 111.5 | 196.5 | 60.0  | DIN6535HE |             | H85332.0    |             |          |       |
|                     | 32.00               | 176.5 | 261.5 | 60.0  | DIN6535HE |             |             | H85532.0    |          |       |
|                     | 32.00               | 271.5 | 356.5 | 60.0  | DIN6535HE |             |             |             | H85832.0 |       |
|                     | 32.00               | 116.5 | 201.5 | 60.0  | DIN6535HE |             | H85333.5    |             |          |       |
|                     | 32.00               | 186.5 | 271.5 | 60.0  | DIN6535HE |             |             | H85533.5    |          |       |
|                     | 32.00               | 286.5 | 371.5 | 60.0  | DIN6535HE |             |             |             | H85833.5 |       |
|                     | 40.00               | 121.5 | 216.5 | 70.0  | DIN6535HB |             | H85335.0    |             |          |       |
|                     | 40.00               | 196.5 | 291.5 | 70.0  | DIN6535HB |             |             | H85535.0    |          |       |
|                     | 40.00               | 301.5 | 396.5 | 70.0  | DIN6535HB |             |             |             | H85835.0 |       |
|                     | 40.00               | 125.5 | 221.5 | 70.0  | DIN6535HB |             | H85336.5    |             |          |       |
|                     | 40.00               | 201.5 | 296.5 | 70.0  | DIN6535HB |             |             | H85536.5    |          |       |
|                     | 40.00               | 311.5 | 406.5 | 70.0  | DIN6535HB |             |             |             | H85836.5 |       |
|                     | 40.00               | 131.5 | 226.5 | 70.0  | DIN6535HB |             | H85338.0    |             |          |       |
|                     | 40.00               | 211.5 | 306.5 | 70.0  | DIN6535HB |             |             | H85538.0    |          |       |
|                     | 40.00               | 326.5 | 421.5 | 70.0  | DIN6535HB |             |             |             | H85838.0 |       |
|                     | 40.00               | 136.5 | 231.5 | 70.0  | DIN6535HB |             | H85339.5    |             |          |       |
|                     | 40.00               | 221.5 | 316.5 | 70.0  | DIN6535HB |             |             | H85539.5    |          |       |
|                     | 40.00               | 336.5 | 431.5 | 70.0  | DIN6535HB |             |             |             | H85839.5 |       |
|                     | 40.00               | 146.5 | 246.5 | 70.0  | DIN6535HB |             | H85341.0    |             |          |       |
|                     | 40.00               | 226.5 | 325.6 | 70.0  | DIN6535HB |             |             | H85541.0    |          |       |
|                     | 40.00               | 351.5 | 451.5 | 70.0  | DIN6535HB |             |             |             | H85841.0 |       |
|                     | 40.00               | 151.6 | 251.6 | 70.0  | DIN6535HB |             | H85342.5    |             |          |       |
|                     | 40.00               | 236.5 | 336.5 | 70.0  | DIN6535HB |             |             | H85542.5    |          |       |
|                     | 40.00               | 361.5 | 461.5 | 70.0  | DIN6535HB |             |             |             | H85842.5 |       |

# H860

# H861

 **DORMER**

Hydra šroubky.

Hydra šroubovák.



| H860                                                                                | H861                                                                                |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |
| N1 - N7                                                                             | N1 - N6                                                                             |

| H860   | H861   |
|--------|--------|
| H860N7 | H861N6 |
| H860N6 | H861N5 |
| H860N5 | H861N4 |
| H860N4 | H861N3 |
| H860N3 |        |
| H860N2 | H861N2 |
| H860N1 | H861N1 |







# SIMPLY RELIABLE

Jako odborníci můžete sami pouhým pohledem na třísku posoudit kvalitu odvedené práce. Tříska svým čistým a jednoduchým tvarem v sobě nese příběh. Naše tříska je jasný a neměnný ukazatel a proto je naším symbolem. Jsme prostě spolehliví.

## Argentina

T: 54 (11) 6777-6777  
F: 54 (11) 4441-4467  
info.ar@dormerpramet.com

## Austria

T: +31 10 2080 240  
info.at@dormerpramet.com

## Belgium & Luxembourg

T: +32 3 440 59 01  
info.be@dormerpramet.com

## Brazil

T: +55 11 5660 3000  
info.br@dormerpramet.com

## Canada

T: (888) 336 7637  
En Français: (888) 368 8457  
F: (905) 542 7000  
cs.canada@dormerpramet.com

## China

T: +86 21 2416 0508  
info.cn@dormerpramet.com

## Croatia

T: +385 98 407 489  
info.hr@dormerpramet.com

## Czech Republic

T: +420 583 381 111  
F: +420 583 215 401  
info.cz@dormerpramet.com

## Denmark

T: 808 82106  
info.se@dormerpramet.com

## Finland

T: 0205 44 7003  
info.fi@dormerpramet.com

## France

T: +33 (0)2 47 62 57 01  
F: +33 (0)2 47 62 52 00  
info.fr@dormerpramet.com

## Germany

T: +49 9131 933 08 70  
F: +49 9131 933 08 742  
info.de@dormerpramet.com

## Hungary

T: +36-96 / 522-846  
F: +36-96 / 522-847  
info.hu@dormerpramet.com

## India

T: +91 11 4601 5686  
info.in@dormerpramet.com

## Italy

T: +39 02 30 70 54 44  
info.it@dormerpramet.com

## Kazakhstan

T: +7 771 305 11 45  
info.kz@dormerpramet.com

## Mexico

T: +52 (555) 7293981  
F: +52 (555) 7293981  
cs.mexico@dormerpramet.com

## Netherlands

T: +31 10 2080 240  
info.nl@dormerpramet.com

## Norway

T: 800 10 113  
info.se@dormerpramet.com

## Poland

T: +48 32 78-15-890  
F: +48 32 78-60-406  
info.pl@dormerpramet.com

## Portugal

T: +351 21 424 54 21  
info.pt@dormerpramet.com

## Romania

T: +4(0)730 015 885  
info.ro@dormerpramet.com

## Russia

T: +7 (495) 775 10 28  
Ф: +7 (499) 763 38 90  
info.ru@dormerpramet.com

## Slovakia

T: +421 (41) 764 54 60  
F: +421 (41) 763 74 49  
info.sk@dormerpramet.com

## Slovenia

T: +385 98 407 489  
info.si@dormerpramet.com

## Spain

T: +34 935717722  
info.es@dormerpramet.com

## Sweden

responsible for Iceland  
T: +46 35 16 52 96  
info.se@dormerpramet.com

## Switzerland

T: +31 10 2080 240  
info.ch@dormerpramet.com

## Turkey

T: +90 533 212 45 47  
info.tr@dormerpramet.com

## Ukraine

T: +38 056 736 30 21  
F: +38 067 220 97 48  
info.ua@dormerpramet.com

## United Kingdom

responsible for Ireland  
T: 0870 850 4466  
F: 0870 850 8866  
info.uk@dormerpramet.com

## United States of America

T: (800) 877-3745  
F: (847) 783-5760  
cs@dormerpramet.com

## Other countries

### South America

T: +55 11 5660 3000  
info.br@dormerpramet.com

### Adria

T: +420 583 381 527  
F: +420 583 381 401  
info.rcee@dormerpramet.com

### Rest of the World

Dormer Pramet International UK  
T: +44 1246 571338  
F: +44 1246 571339  
info.int@dormerpramet.com

### Dormer Pramet International CZ

T: +420 583 381 520  
F: +420 583 215 401  
info.int.cz@dormerpramet.com

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