

DORMER PRAMET

HYDRA

HIGH PERFORMANCE
REPLACEABLE HEAD DRILLS

2020



 **DORMER**



We have complemented our current Hydra drilling range by introducing additional body lengths: 12×D for deeper hole applications and 1.5×D for improved rigidity in shallow hole and plate drilling applications.

These will support the entire family of solid carbide heads for steel, stainless steel and cast iron machining.

FEATURES AND BENEFITS

- **Consistently high performance**, even after numerous head changes.
- **Reduction in inventory costs** – one body can fit multiple solid carbide head sizes.
- **Versatile** – cylindrical shank with flat allows use in multiple types of holder.
- **Easy and quick head changes** with minimal interruptions to the production process. Heads can be changed without removing the body from the machine.
- Exact fit of head to body maximises tool rigidity for **superior hole accuracy** and precise tolerances.

MATERIAL

PREMIUM MICROGRAIN CARBIDE (Heads)

- Micrograin carbide provides an excellent combination of hardness and toughness, resulting in high wear resistance and longer tool life.

HARDENED STEEL (Body)

- Hardened steel with high gloss nickel plating for high resistance to wear and corrosion.

COATING

TITANIUM ALUMINIUM NITRIDE BASED COATING PROVIDES:

- High toughness and oxidation resistance.
- Outstanding wear protection in abrasive materials like Cast Iron.
- High hardness at high temperatures created when drilling Cast Irons.
- Increased tool life and productivity.

HEAD TYPES



R950

STEEL



R960

STAINLESS STEEL



R970

CAST IRON

GEOMETRY

CORNER DESIGN

- A strong corner design increases stability during drilling and reduces the forces encountered during breakthrough of the exit surface.
- This improves the quality of the exit surface and helps prevent “exit burst” which can occur when drilling granular materials.

POINT GEOMETRY

- 140 degree split point geometry provides good centering capabilities and low thrust forces when drilling most materials.

A COMPLETE RANGE

- Available in 1.5xD, 3xD, 5xD, 8xD and 12xD lengths incorporating coolant holes to improve cutting efficiency and swarf evacuation, resulting in higher productivity.
- Metric: 12.00 mm to 42.00 mm.
- Fractional: 15/32 inch to 1.5/8 inch.
- Best results are obtained using hydraulic holders. Can also be held in ER and Weldon type toolholders.



BODY LENGTHS

1,5xD



NEW

3xD



5xD



8xD



12xD



NEW

WORKPIECE MATERIAL GROUPS (WMG)

ISO to select a cutting grade and geometry for a broad range of workpiece materials

General definition

i.e. steel, stainless steel...

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

Subgroup

to navigate and select a tool by suitability for more specific range of workpiece materials

Definition by structure/composition

i.e. plain carbon steel, alloy steel...

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

P1

P2

P3

P4

WMG

to select and provide cutting conditions within a bandwidth of $\pm 10\%$

Definition by hardness/ultimate tensile strength

i.e. $160 < 220\text{HB}$, $620 < 900 \text{ n/mm}^2$...

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**

ABOUT DORMER PRAMET'S WORKPIECE MATERIAL CLASSIFICATION

Workpiece material groups ("WMG") are used to support easy and reliable selection of the right cutting tool and starting values for machining conditions in particular applications.

Dormer Pramet classifies workpiece materials into six differently coloured groups;

- **Blue:** Steel and cast steel (P-group)
- **Yellow:** Stainless steel (M-group)
- **Red:** Cast iron (K-group)
- **Green:** Non-ferrous metals (N-group)
- **Orange:** High-temperature alloys (S-group)
- **Grey:** Hardened materials (H-group)

Each of these are divided into subgroups on the basis of their structure and/or composition. For example, P-group steel and cast steel is split into four subgroups, namely;

- **P1 – Free machining steel**
- **P2 – Plain carbon steel**
- **P3 – Alloy steel**
- **P4 – Tool steel**

A final division includes material properties, such as hardness and ultimate tensile strength. This is to provide our customers with a complete tool recommendation, including starting values for cutting speed and feed.

The table on the next page includes a description of each workpiece material group, as well as examples of commonly used designations

ISO	WMG (Workpiece Material Groups)		Ultimate tensile strength Mpa [N/mm ²]	Old Dormer AMG	Old Pramet ISO
P	P1	P1.1 Free machining sulfurized carbon steel with a hardness of < 220 HB	≤ 760	1.1	P1
		P1.2 Free machining sulfurized and phosphorized carbon steel with a hardness of < 180 HB	≤ 620	1.1	P1
		P1.3 Free machining sulfurized/phosphorized and leaded carbon steel with a hardness of < 160 HB	≤ 550	1.1	P1
	P2	P2.1 Plain low carbon steel containing < 0.25%C with a hardness of < 180 HB	≤ 620	1.2	P2
		P2.2 Plain medium carbon steel containing < 0.55%C with a hardness of < 240 HB	≤ 830	1.3	P2
		P2.3 Plain high carbon steel containing > 0.55%C, with a hardness of < 300 HB	≤ 1030	1.5	P3
	P3	P3.1 Alloy steel with a hardness of < 180 HB	≤ 620	1.4	P3
		P3.2 Alloy steel with a hardness of 180 – 260 HB	> 620 ≤ 900	1.4	P3
		P3.3 Alloy steel with a hardness of 260 – 360 HB	> 900 ≤ 1240	1.5	P4
	P4	P4.1 Tool steel with a hardness of < 26 HRC	≤ 900	1.4	P3
P4.2 Tool steel with a hardness of 26 – 39 RC		> 900 ≤ 1240	1.5	P4	
P4.3 Tool steel with a hardness of 39 – 45 HRC		> 1250 ≤ 1450	1.6	H1	
M	M1	M1.1 Stainless steel, ferritic with a hardness of < 160 HB	≤ 520	2.1	M1
		M1.2 Stainless steel, ferritic with a hardness of 160 – 220 HB	> 520 ≤ 700	2.1	M1
	M2	M2.1 Stainless steel, martensitic with a hardness of < 200 HB	≤ 670	2.3	M2
		M2.2 Stainless steel, martensitic with a hardness of 200 – 280 HB	> 670 ≤ 950	2.3	M2
		M2.3 Stainless steel, martensitic with a hardness of 280 – 380 HB	> 950 ≤ 1300	2.4	M2
	M3	M3.1 Stainless steel, austenitic with a hardness of < 200 HB	≤ 750	2.2	M3
		M3.2 Stainless steel, austenitic with a hardness of 200 – 260 HB	> 750 ≤ 870	2.2	M3
		M3.3 Stainless steel, austenitic with a hardness of 260 – 300 HB	> 870 ≤ 1040	2.2	M3
M4	M4.1 Stainless steel, austenitic-ferritic or super-austenitic with a hardness of < 300 HB	≤ 990	2.3	M4	
	M4.2 Stainless steel, precipitation hardening austenitic with a hardness of 300 – 380 HB	≤ 1320	2.4	M4	
K	K1	K1.1 Gray iron, ferritic or ferritic-pearlitic with a hardness of < 180 HB	≤ 190	3.1	K1
		K1.2 Gray iron, ferritic-pearlitic or pearlitic with a hardness of 180 – 240 HB	> 190 ≤ 310	3.2	K1
		K1.3 Gray iron, pearlitic with a hardness of 240 – 280 HB	> 310 ≤ 390	3.2	K1
	K2	K2.1 Malleable iron, ferritic with a hardness of < 160 HB	≤ 400	3.3	K2
		K2.2 Malleable iron, ferritic or pearlitic with a hardness of 160 – 200 HB	> 400 ≤ 550	3.3	K2
		K2.3 Malleable iron, pearlitic with a hardness of 200 – 240 HB	> 550 ≤ 660	3.4	K2
	K3	K3.1 Ductile (nodular/spheroidal) iron, ferritic with a hardness of < 180 HB	≤ 560	3.3	K3
		K3.2 Ductile (nodular/spheroidal) iron, ferritic or pearlitic with a hardness of 180 – 220 HB	> 560 ≤ 680	3.3	K4
		K3.3 Ductile (nodular/spheroidal) iron, pearlitic with a hardness of 220 – 260 HB	> 680 ≤ 800	3.4	K4
	K4	K4.1 Austenitic cast iron with a hardness of < 180 HB	≤ 610		
		K4.2 Austenitic cast iron with a hardness of 180 – 240HB	> 610 ≤ 840		
		K4.3 Austempered ductile iron with a hardness of 240 – 280 HB	> 840 ≤ 980		
		K4.4 Austempered ductile iron with a hardness of 280 – 320 HB	> 980 ≤ 1130		
		K4.5 Austempered ductile iron with a hardness of 320 – 360 HB	> 1130 ≤ 1280		
	K5	K5.1 Vermicular, compacted graphite iron with a hardness of < 180 HB			
K5.2 Vermicular, compacted graphite iron with a hardness of 180 – 220 HB					
K5.3 Vermicular, compacted graphite iron with a hardness of 220 – 260 HB					
N	N1	N1.1 Pure aluminium and wrought aluminium alloys with a hardness of < 60 HB	≤ 240	7.1	N1
		N1.2 Wrought aluminium alloys with a hardness of 60 – 100 HB	> 240 ≤ 400	7.1	N1
		N1.3 Wrought aluminium alloys with a hardness of 100 – 150 HB	> 400 ≤ 590	7.2	N2
	N2	N2.1 Cast aluminium alloys with a hardness of < 75 HB	≤ 240	7.3	N1
		N2.2 Cast aluminium alloys with a hardness of 75 – 90 HB	> 240 ≤ 270	7.3	N1
		N2.3 Cast aluminium alloys with a hardness of 90 < 140 HB	> 270 ≤ 440	7.3	N2
	N3	N3.1 Free-cutting copper-alloys materials with excellent machining properties		6.3	N3
		N3.2 Short-chip copper-alloys with good to moderate machining properties		6.2	N3
		N3.3 Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties		6.1	N4
	N4	N4.1 Thermoplastic polymers		8.1	
N4.2 Thermosetting polymers			8.2		
N4.3 Reinforced polymers or composites			8.3		
S	S1	S1.1 Titanium or titanium alloys, with a hardness of < 200 HB	≤ 660	4.1	S1
		S1.2 Titanium alloys, with a hardness of 200 – 280 HB	> 660 ≤ 950	4.2	S1
		S1.3 Titanium alloys, a hardness of 280 – 360 HB	> 950 ≤ 1200	4.3	S1
	S2	S2.1 High-temperature Fe-based alloys with a hardness of < 200 HB	≤ 690		S2
		S2.2 High-temperature Fe-based alloys with a hardness of 200 – 280 HB	> 690 ≤ 970		S2
	S3	S3.1 High-temperature Ni-based alloys with a hardness of < 280 HB	≤ 940	5.2	S3
		S3.2 High-temperature Ni-based alloys with a hardness of 280 – 360 HB	> 940 ≤ 1200	5.3	S3
	S4	S4.1 High-temperature Co-based alloys with a hardness of < 240HB	≤ 800		S4
S4.2 High-temperature Co-based alloys with a hardness of 240 – 320 HB		> 800 ≤ 1070		S4	
H	H1	H1.1 Chilled cast iron with a hardness of < 400 HB			
	H2	H2.1 Hardened cast iron with a hardness < 55 HRC			H2
		H2.2 Hardened cast iron with a hardness > 55 HRC			H2
	H3	H3.1 Hardened steel with a hardness of < 51 HRC		1.7	H3
		H3.2 Hardened steel with a hardness of 51 – 55 HRC		1.7	H3
	H4	H4.1 Hardened steel with a hardness of 55 – 59 HRC		1.8	H4
H4.2 Hardened steel with a hardness of > 59 HRC			1.8	H4	

HYDRA

HIGH PERFORMANCE REPLACEABLE HEAD DRILLS

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

$$V_f = n \times f_n$$



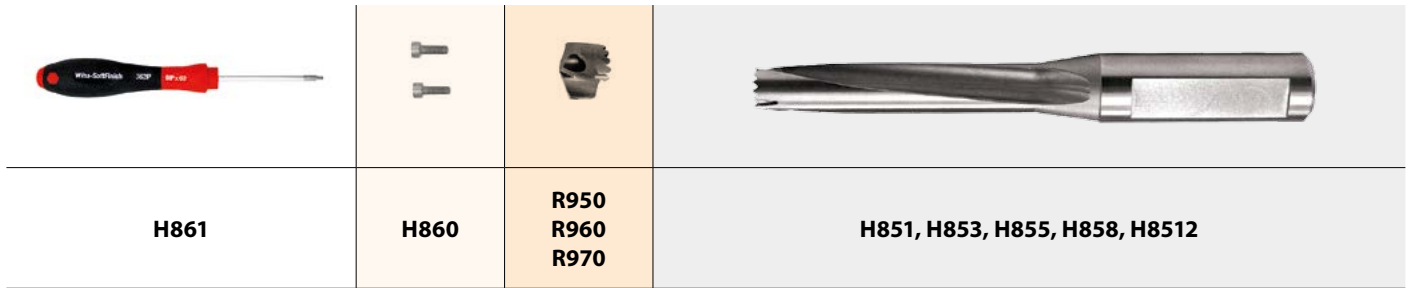
HM



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

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

DC (mm) / (inch)	R950	R960	R970	H851 1,5xD	H853 3xD	H855 5xD	H858 8xD	H8512 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							
35/64"	R95035/64	R96035/64	R97035/64							
14.0	R95014.0	R96014.0	R97014.0	H85114.0	H85314.0	H85514.0	H85814.0	H851214.0	H860N1	H861N1
14.1	R95014.1	R96014.1	R97014.1	H8519/16	H8539/16	H8559/16				
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							
15.1	R95015.1	R96015.1	R97015.1	H85115.0	H85315.0	H85515.0	H85815.0	H851215.0		
15.2	R95015.2	R96015.2	R97015.2	H85139/64	H85339/64	H85539/64				
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 [mm] / [inch]	R950	R960	R970	H851 1,5xD	H853 3xD	H855 5xD	H858 8xD	H8512 12xD	H860	H861
15.6	R95015.6	R96015.6	R97015.6	H85116.0 H85141/64	H85316.0 H85341/64	H85516.0 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 H85111/16	H85317.0 H85311/16	H85517.0 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 H85123/32	H85318.0 H85323/32	H85518.0 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 H85149/64	H85319.0 H85349/64	H85519.0 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 H85151/64	H85320.0 H85351/64	H85520.0 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 H85127/32	H85321.0 H85327/32	H85521.0 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 H85157/64	H85322.0 H85357/64	H85522.0 H85557/64	H85822.0	H851222.0	H860N4	
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							

DC [mm] / [inch]	R950	R960	R970	H851 1,5xD	H853 3xD	H855 5xD	H858 8xD	H8512 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	H85130.0	H85330.0	H85530.0	H85830.0	-	H860N6	H861N5
1.3/16"	R9501.3/16	R9601.3/16	R9701.3/16	H8511.3/16	H8531.3/16	H8551.3/16				
30.5	R95030.5	R96030.5	R97030.5							
1.7/32"	R9501.7/32	-	R9701.7/32							
31.0	R95031.0	-	R97031.0	-	H85332.0	H85532.0	H85832.0	-		
1.1/4"	R9501.1/4	-	R9701.1/4							
32.0	R95032.0	-	R97032.0							
32.5	R95032.5	-	R97032.5							
1.19/64"	R9501.19/64	-	R9701.19/64		H85333.5	H85533.5	H85833.5	-		
33.0	R95033.0	-	R97033.0	-						
33.5	R95033.5	-	R97033.5							
34.0	R95034.0	-	R97034.0							
1.11/32"	R9501.11/32	-	R9701.11/32		H85335.0	H85535.0	H85835.0	-		
34.5	R95034.5	-	R97034.5	-						
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	-	H85338.0	H85538.0	H85838.0	-		
37.5	R95037.5	-	R97037.5							
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	-	H85342.5	H85542.5	H85842.5	-		
42.0	R95042.0	-	R97042.0							

R950

R960

R970

Hydra drill head for steel.

Hydra drill head for stainless steel.

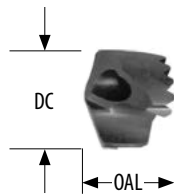
Hydra drill head for cast iron.

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 15/32 – 1.5/8	12.0 – 30.5 15/32 – 1.3/16	12.0 – 42.0 15/32 – 1.5/8

DC _h [inch]	DC _h [mm]	DC [decimal inch]	OAL [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
	13.70	0.5394	10.3	R95013.7	R96013.7	R97013.7
35/64	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
	9/16	14.29	0.5625	10.3	R9509/16	R9609/16
14.50		0.5709	10.3	R95014.5	R96014.5	R97014.5
14.60		0.5748	11.0	R95014.6	R96014.6	R97014.6

DC h ₁	DC h ₂	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 ₇ [inch]	DC h ₇ [mm]	DC [decimal inch]	OAL [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

Hydra body 1.5xD. Four (4) screws and one (1) screwdriver are included with a drill body.

H853

Hydra body 3xD. Four (4) screws and one (1) screwdriver are included with a drill body.

H855

Hydra body 5xD. Four (4) screws and one (1) screwdriver are included with a drill body.

H858

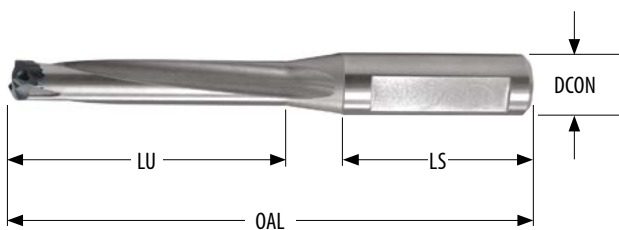
Hydra body 8xD. Four (4) screws and one (1) screwdriver are included with a drill body.

H8512

Hydra body 12xD. Four (4) screws and one (1) screwdriver are included with a drill body.

H851	Apply starting values for speed and feed with a correction factor of 1.10
H853	Apply starting values for speed and feed with a correction factor of 1.00
H855	Apply starting values for speed and feed with a correction factor of 0.95
H858	Apply starting values for speed and feed with a correction factor of 0.90
H8512	Apply starting values for speed and feed with a correction factor of 0.80

H851	HSS		1.5XD		ISO 9766			
H853	HSS		3XD		DIN 6535HB DIN 6535HE			
H855	HSS		5XD		DIN 6535HB DIN 6535HE			
H858	HSS		8XD		DIN 6535HB DIN 6535HE			
H8512	HSS		12XD		ISO 9766			



H851	H853	H855	H858	H8512
NEW HYDRA	HYDRA	HYDRA	HYDRA	NEW HYDRA
12.0 – 30.0 31/64 – 1.3/16	12.0 – 42.5 31/64 – 1.3/16	12.0 – 42.5 31/64 – 1.3/16	14.0 – 42.5	14.0 – 25.0

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

DCON h _e	DCON h _e	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 ₆	DCON h ₆	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 ₆	DCON h ₆	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



Hydra Screws.

Hydra Screwdriver.



H860	H861
	
N1 - N7	N1 - N6

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

SIMPLY RELIABLE

As a professional you can judge the quality of work by just looking at the chip. Our chip is a clean and uncomplicated shape that in itself tells a story. It is a clear and consistent signal and that's why we use it as a symbol for being **Simply Reliable**.

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