ALLIED MACHINE & ENGINEERING | WOHLHAUPTER®

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Boring

Reaming

Burnishing

Threading

Specials

Revolution Drill®

DRILLING

Indexable Insert Drilling System

SECTION A60

Revolution Drill®

Revolution Drill®

Large Diameter Replaceable IC Insert Drilling System

- **Diameter Range:** 47.63 mm - 101.60 mm (1.875" - 4.000")

Large Scale Innovation

The Revolution Drill has an innovative design that allows for adjustability of 5.1 mm (0.200") on diameter. This eliminates the need for special tooling and/or subsequent boring operations. With the ability to drill from solid, the Revolution Drill does not require a previously drilled pilot hole. The replaceable cartridges reduce setup time, and the indexable inserts protect your investment. The insert design provides excellent chip control and aggressive penetration rates.

Drills from solid.	Drill depths up to 4.5xD.	Excellent chip control.

Applicable Industries

Aerospace | Agriculture | Automotive | Firearms | General Machining | Oil & Gas | Renewable Energy

Your safety and the safety of others is very important. This catalogue contains important safety messages. Always read and follow all safety precautions.

This triangle is a safety hazard symbol. It alerts you to potential safety hazards that can cause tool failure and serious injury.

When you see this symbol in the catalogue, look for a related safety message that may be near this triangle or referred to in the nearby text.

There are safety signal words also used in the catalogue. Safety messages follow these words.

⚠ WARNING

WARNING (shown above) means that failure to follow the precautions in this message could result in tool failure and serious injury.

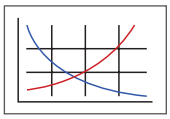
NOTICE means that failure to follow the precautions in this message could result in damage to the tool or machine but not result in personal injury.

NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

Visit www.alliedmachine.com for the most up-to-date information and procedures.

Reference Icons
The following icons will appear throughout the catalogue to help you navigate between products.

Setup / Assembly Information
Detailed instructions and information regarding the corresponding part(s)



Recommended Cutting Data
Speed and feed recommendations for optimum and safe drilling

Through Coolant Option
Indicates that the product is through coolant

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
34	47.63 - 50.80	1.875 - 2.000
36	50.80 - 55.88	2.000 - 2.200
38	55.88 - 60.96	2.200 - 2.400
42	60.96 - 66.04	2.400 - 2.600
44	66.04 - 71.12	2.600 - 2.800
46	71.12 - 76.20	2.800 - 3.000
48	76.20 - 81.28	3.000 - 3.200
52	81.28 - 86.36	3.200 - 3.400
54	86.36 - 91.44	3.400 - 3.600
56	91.44 - 96.52	3.600 - 3.800
58	96.52 - 101.60	3.800 - 4.000

Revolution Drill® Contents

Introduction Information

Drill Series

Recommended Cutting Data

Product Overview

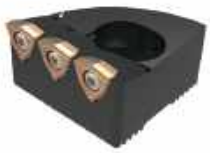
Series	Diameter Range		Length-to-Diameter Ratio	Shank Options			Inserts per Cartridge	Page
	Metric (mm)	Imperial (in)		Straight	CAT40	CAT50		
34	47.63 - 50.80	1.875 - 2.000	2.2, 3.5, 4.5	✓	✓	✓	2	6 - 7
36	50.80 - 55.88	2.000 - 2.200	2.2, 3.5, 4.5	✓	✓	✓	2	8 - 9
38	55.88 - 60.96	2.200 - 2.400	2.2, 3.5, 4.5	✓	✓	✓	2	10 - 11
42	60.96 - 66.04	2.400 - 2.600	2.2, 3.5, 4.5	✓	✓	✓	2	12 - 13
44	66.04 - 71.12	2.600 - 2.800	2.2, 3.5	✓		✓	3	14
46	71.12 - 76.20	2.800 - 3.000	2.2, 3.5	✓		✓	3	15
48	76.20 - 81.28	3.000 - 3.200	1.0, 2.5	✓		✓	3	16
52	81.28 - 86.36	3.200 - 3.400	1.0, 2.5	✓		✓	3	17
54	86.36 - 91.44	3.400 - 3.600	1.0, 2.5	✓		✓	3	18
56	91.44 - 96.52	3.600 - 3.800	1.0, 2.5	✓		✓	4	19
58	96.52 - 101.60	3.800 - 4.000	1.0, 2.5	✓		✓	4	20

NOTE: Stacked plate styles are also available.

Features & Benefits

- Adjustability of 5.10 mm (0.200") on diameter.
- Drill depths up to 4.5xD (standard).
- The replaceable cartridges protect your investment.
- Adjustable diameter reduces inventory and cost.
- The insert design allows for excellent chip control and aggressive penetration rates.
- No pilot hole needed.

2 Inserts
(34 - 42 series)



3 Inserts
(44 - 54 series)

4 Inserts
(56 - 58 series)

Shank Options

Straight Shank
(all series)

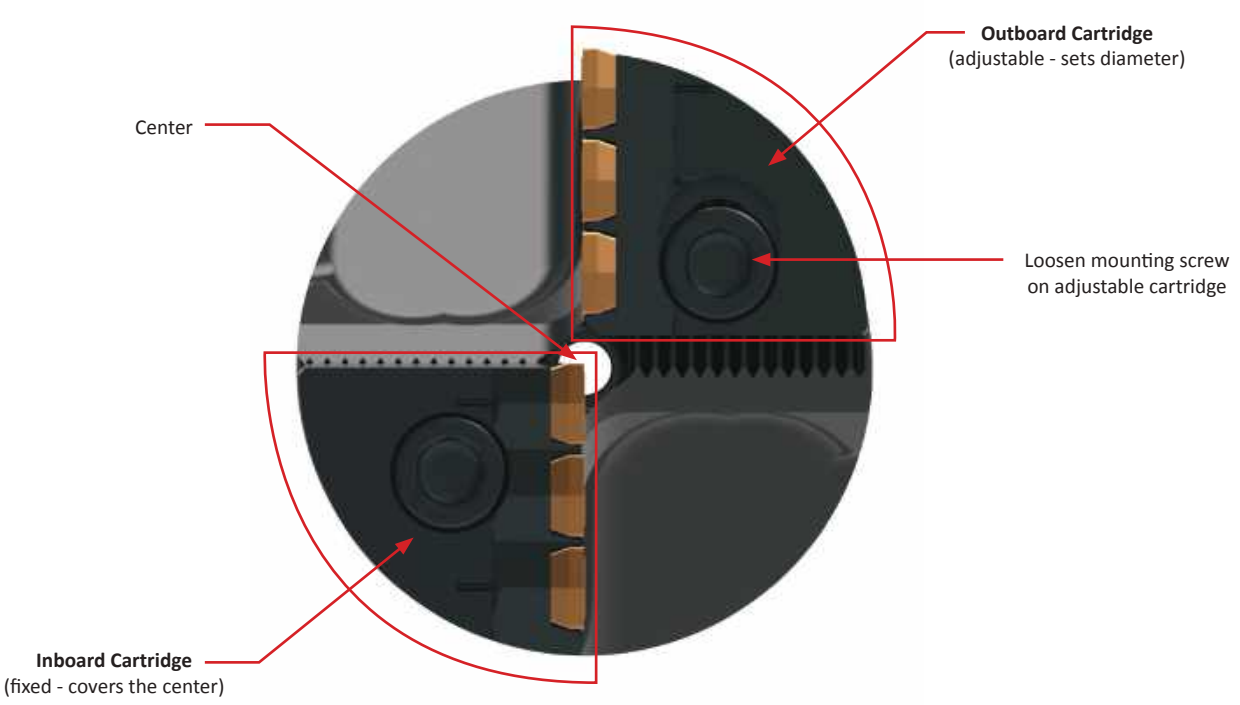
CAT40 Shank
(34, 36, 38, 42 series)

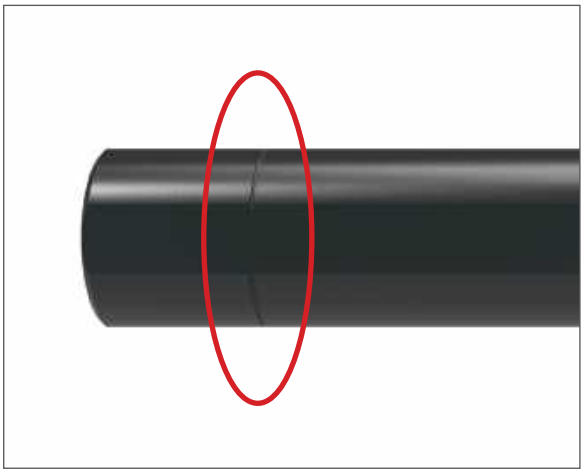
CAT50 Shank
(all series)

Body Lengths

- 1.0xD (48, 52, 54, 56, 58 series)
- 2.2xD (34, 36, 38, 42, 44, 46 series)
- 2.5xD (48, 52, 54, 56, 58 series)
- 3.5xD (34, 36, 38, 42, 44, 46 series)
- 4.5xD (34, 36, 38, 42, 44, 46 series)

Product Overview

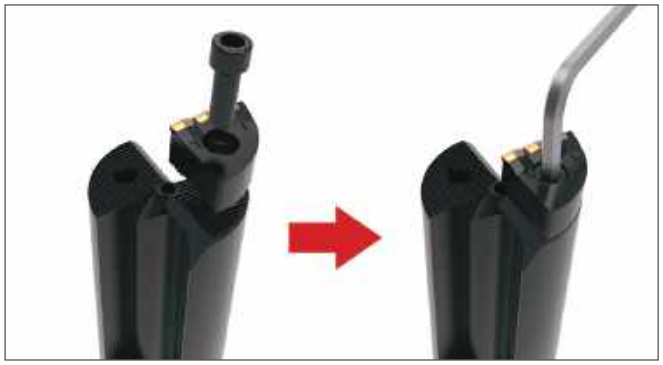




Straight Shanks

- Designed for lathe applications.
- Can be cut off for use in end mill holders.
- The score mark (circled above) is provided for recommended cut length.
- Cut and deburr at the score mark.
- This improves rigidity when the body sits against the face of an end mill holder.

Setup Instructions



Step 1:
Mount the fixed cartridge and tighten the mounting screw to 15-19 N-m (11-14 ft-lbf).

Step 2:
Finger-tighten the mounting screw on the adjustable cartridge.

Step 3:
Set the diameter using the adjustment screw against the mounting screw. Place the drill in a presetter to ensure the correct diameter setting.

Step 4:
Tighten the mounting screw to 15-19 N-m (11-14 ft-lbf).

IC Inserts

- The design allows for excellent chip control and aggressive penetration rates.
- The proprietary AM200® and AM300® coatings increase tool life above competitors' premium coatings.
- The same inserts are used for both Revolution Drill and Opening Drill® products.

AM300®

AM200®

TiN

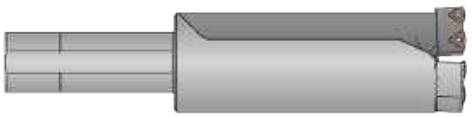
Insert Application Recommendations

Carbide Grade Options	
P35 (C5)	General purpose carbide grade suitable for most applications. ▶ *Common application in steels and stainless steels.*
K35 (C1)	Toughest carbide grade. Provides the best combination of edge strength and tool life. ▶ *Recommended for less rigid applications.*
K25 (C2)	Higher wear-resistant carbide suitable for abrasive material applications. ▶ *Recommended for grey, ductile, and nodular irons.*
Additional Geometry Option	
High Rake (HR)	Provides superior chip control and tool life in long chipping carbon and alloy steels below 200 BHN.

Product Nomenclature

Revolution Drill Holders

R	34	X	22	–	150L
1	2		3		4



1. Drill Style

- **R** = Standard
- **SP** = Stacked Plate

2. Series

- **34** = 34 series
- **36** = 36 series
- **38** = 38 series
- **42** = 42 series
- **44** = 44 series
- **46** = 46 series
- **48** = 48 series
- **52** = 52 series
- **54** = 54 series
- **56** = 56 series
- **58** = 58 series

3. Length-to-Diameter Ratio

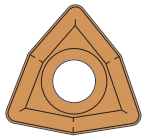
- **10** = 1.0xD
- **22** = 2.2xD
- **25** = 2.5xD
- **35** = 3.5xD
- **45** = 4.5xD

4. Shank Information

- **40M** = 40 mm ISO 9766
- **50M** = 50 mm ISO 9766
- **150L** = 1-1/2 Ø straight
- **200L** = 2 Ø straight
- **CV40** = CAT40
- **CV50** = CAT50

Revolution Drill Inserts

OP	–	05	T3	08	–	1	H	HR
1		2	3	4		5	6	7



1. Compatible with:

- Opening Drill®
- Revolution Drill

2. IC Type

- **05** = 5/16"

3. Thickness

- **T3** = 5/32"

4. Radius

- **08** = 1/32"

5. Carbide Grade

- **Blank** = P35 (C5)
- **1** = K35 (C1)
- **2** = K25 (C2)

6. Coating

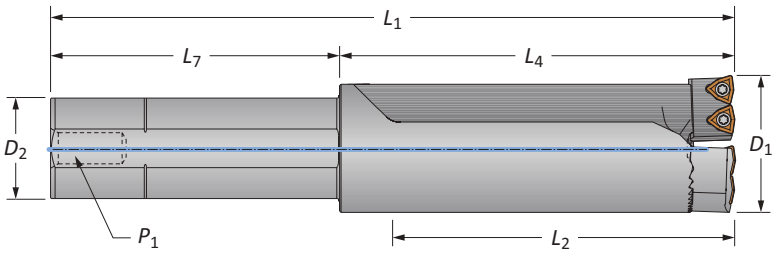
- **P** = AM300®
- **H** = AM200®
- **T** = TiN
- **A** = TiAlN
- **N** = TiCN
- **U** = Uncoated

7. Geometry

- **Blank** = General Purpose
- **HR** = High Rake

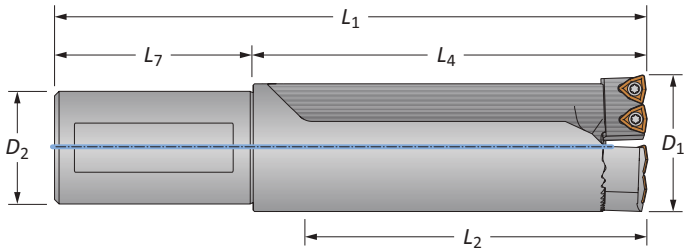
Reference Key

Symbol	Attribute
D_1	Drill diameter range
D_2	Shank diameter
L_1	Overall length
L_2	Maximum drill depth
L_4	Holder length
L_7	Shank length
P_1	Rear pipe tap



Revolution Drill Holders

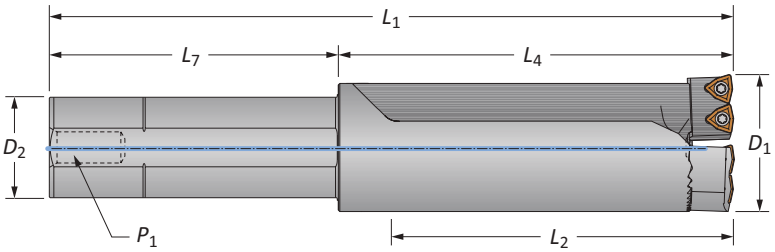
34 Series | Diameter Range: 47.63 mm - 50.80 mm (1.875" - 2.000")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
ⓜ	Standard	2.2xD	47.63 - 50.80	114.94	137.36	207.36	40.00	70.00	–	**R34X22-40M**	C34-...
	Standard	3.5xD	47.63 - 50.80	178.44	200.86	270.86	40.00	70.00	–	**R34X35-40M**	C34-...
	Standard	4.5xD	47.63 - 50.80	229.24	251.66	321.66	40.00	70.00	–	**R34X45-40M**	C34-...
	Stacked Plate	2.2xD	47.63 - 50.80	112.40	134.80	204.80	40.00	70.00	–	**SP34X22-40M**	C34SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
ⓘ	Standard	2.2xD	1.875 - 2.000	4-17/32	5-13/32	9-13/32	1-1/2	4	1/4	**R34X22-150L**	C34-...
	Standard	3.5xD	1.875 - 2.000	7-1/32	7-29/32	11-29/32	1-1/2	4	1/4	**R34X35-150L**	C34-...
	Standard	4.5xD	1.875 - 2.000	9-1/32	9-29/32	13-29/32	1-1/2	4	1/4	**R34X45-150L**	C34-...
	Stacked Plate	2.2xD	1.875 - 2.000	4-27/64	5-5/16	9-5/16	1-1/2	4	1/4	**SP34X22-150L**	C34SP-...

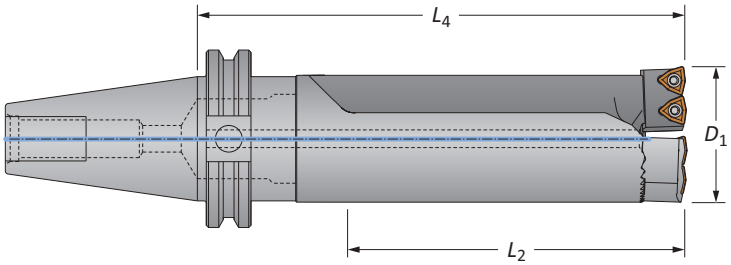
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

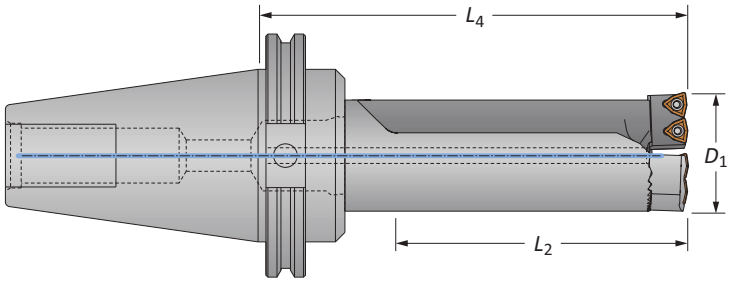
34 Series | Diameter Range: 47.63 mm - 50.80 mm (1.875" - 2.000")



CV40 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	1.875 - 2.000	4-17/32	6-25/32	CV40	**R34X22-CV40**	C34-...
ⓘ	Standard	3.5xD	1.875 - 2.000	7-1/32	9-9/32	CV40	**R34X35-CV40**	C34-...
	Standard	4.5xD	1.875 - 2.000	9-1/32	11-9/32	CV40	**R34X45-CV40**	C34-...
	Stacked Plate	2.2xD	1.875 - 2.000	4-27/64	6-11/16	CV40	**SP34X22-CV40**	C34SP-...

*Holder includes cartridges; however, inserts are sold separately.



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	1.875 - 2.000	4-17/32	6-25/32	CV50	**R34X22-CV50**	C34-...
ⓘ	Standard	3.5xD	1.875 - 2.000	7-1/32	9-9/32	CV50	**R34X35-CV50**	C34-...
	Standard	4.5xD	1.875 - 2.000	9-1/32	11-9/32	CV50	**R34X45-CV50**	C34-...
	Stacked Plate	2.2xD	1.875 - 2.000	4-27/64	6-11/16	CV50	**SP34X22-CV50**	C34SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R34...	**C34-FIX**	2	MS-17M-1	5 mm	AS-16T9-1	8T-9
	C34-ADJ	2	MS-17M-1	5 mm	AS-16T9-1	8T-9
SP34...	**C34SP-FIX**	2	MS-17M-1	5 mm	AS-16T9-1	8T-9
	C34SP-ADJ	2	MS-17M-1	5 mm	AS-16T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

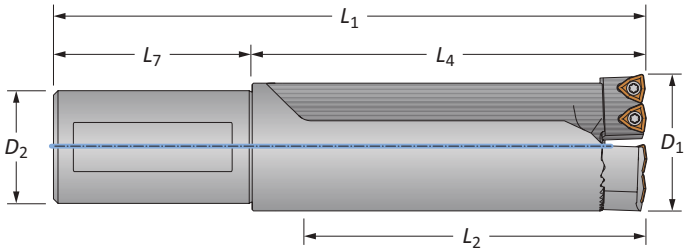
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

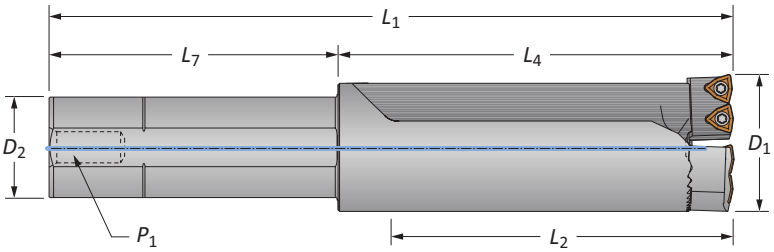
36 Series | Diameter Range: 50.80 mm - 55.88 mm (2.000" - 2.200")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
ⓜ	Standard	2.2xD	50.80 - 55.88	125.96	149.58	219.58	40.00	70.00	–	**R36X22-40M**	C36-...
	Standard	3.5xD	50.80 - 55.88	195.81	219.43	289.43	40.00	70.00	–	**R36X35-40M**	C36-...
	Standard	4.5xD	50.80 - 55.88	252.96	276.58	346.58	40.00	70.00	–	**R36X45-40M**	C36-...
	Stacked Plate	2.2xD	50.80 - 55.88	125.96	147.60	217.60	40.00	70.00	–	**SP36X22-40M**	C36SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
ⓘ	Standard	2.2xD	2.000 - 2.200	4-61/64	5-57/64	9-57/64	1-1/2	4	1/4	**R36X22-150L**	C36-...
	Standard	3.5xD	2.000 - 2.200	7-45/64	8-41/64	12-41/64	1-1/2	4	1/4	**R36X35-150L**	C36-...
	Standard	4.5xD	2.000 - 2.200	9-61/64	10-57/64	14-57/64	1-1/2	4	1/4	**R36X45-150L**	C36-...
	Stacked Plate	2.2xD	2.000 - 2.200	4-57/64	5-13/16	9-13/16	1-1/2	4	1/4	**SP36X22-150L**	C36SP-...

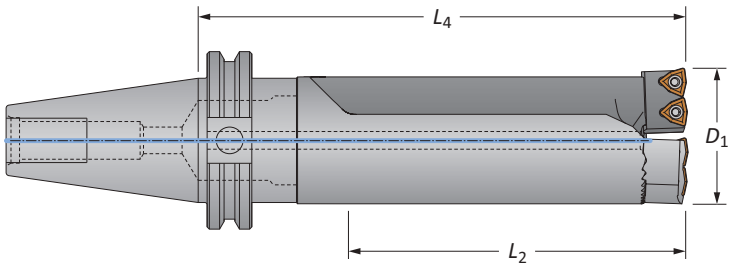
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

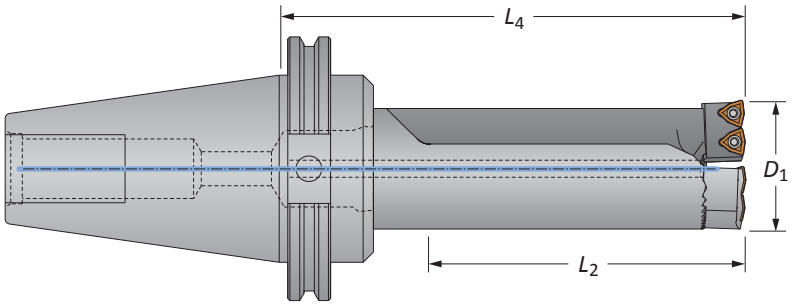
36 Series | Diameter Range: 50.80 mm - 55.88 mm (2.000" - 2.200")



CV40 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	2.000 - 2.200	4-61/64	7-17/64	CV40	**R36X22-CV40**	C36-...
ⓘ	Standard	3.5xD	2.000 - 2.200	7-45/64	10-1/64	CV40	**R36X35-CV40**	C36-...
	Standard	4.5xD	2.000 - 2.200	9-61/64	12-17/64	CV40	**R36X45-CV40**	C36-...
	Stacked Plate	2.2xD	2.000 - 2.200	4-57/64	7-35/64	CV40	**SP36X22-CV40**	C36SP-...

*Holder includes cartridges; however, inserts are sold separately.



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	2.000 - 2.200	4-61/64	7-17/64	CV50	**R36X22-CV50**	C36-...
ⓘ	Standard	3.5xD	2.000 - 2.200	7-45/64	10-1/64	CV50	**R36X35-CV50**	C36-...
	Standard	4.5xD	2.000 - 2.200	9-61/64	12-17/64	CV50	**R36X45-CV50**	C36-...
	Stacked Plate	2.2xD	2.000 - 2.200	4-57/64	7-35/64	CV50	**SP36X22-CV50**	C36SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R36...	**C36-FIX**	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C36-ADJ	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
SP36...	**C36SP-FIX**	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C36SP-ADJ	2	MS-17M-1	5 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

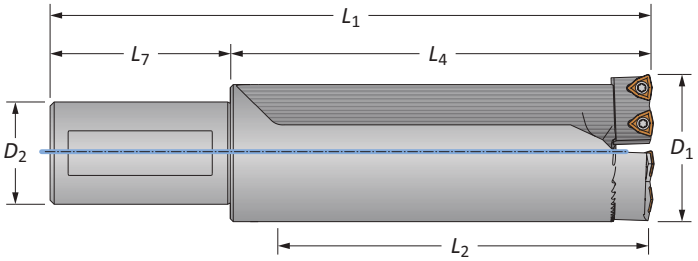
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

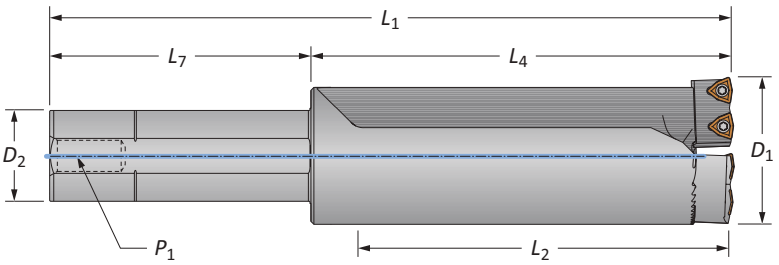
38 Series | Diameter Range: 55.88 mm - 60.96 mm (2.200" - 2.400")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
ⓜ	Standard	2.2xD	55.88 - 60.96	138.66	162.20	232.20	40.00	70.00	–	**R38X22-40M**	C38-...
ⓜ	Standard	3.5xD	55.88 - 60.96	214.86	238.40	308.40	40.00	70.00	–	**R38X35-40M**	C38-...
ⓜ	Standard	4.5xD	55.88 - 60.96	278.36	301.90	371.90	40.00	70.00	–	**R38X45-40M**	C38-...
ⓜ	Stacked Plate	2.2xD	55.88 - 60.96	138.66	159.99	230.00	40.00	70.00	–	**SP38X22-40M**	C38SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
ⓘ	Standard	2.2xD	2.200 - 2.400	5-29/64	6-25/64	10-25/64	1-1/2	4	1/4	**R38X22-150L**	C38-...
ⓘ	Standard	3.5xD	2.200 - 2.400	8-29/64	9-25/64	13-25/64	1-1/2	4	1/4	**R38X35-150L**	C38-...
ⓘ	Standard	4.5xD	2.200 - 2.400	10-61/64	11-57/64	15-57/64	1-1/2	4	1/4	**R38X45-150L**	C38-...
ⓘ	Stacked Plate	2.2xD	2.200 - 2.400	5-3/8	6-19/64	10-19/64	1-1/2	4	1/4	**SP38X22-150L**	C38SP-...

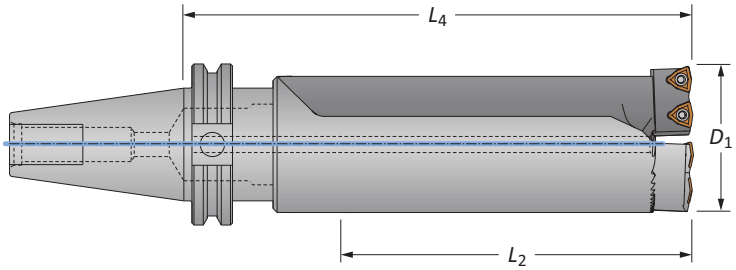
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

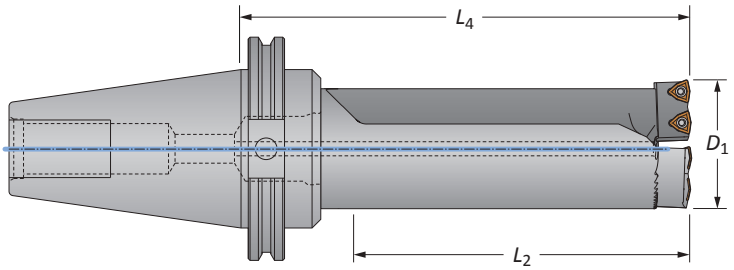
38 Series | Diameter Range: 55.88 mm - 60.96 mm (2.200" - 2.400")



CV40 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	2.200 - 2.400	5-29/64	7-49/64	CV40	**R38X22-CV40**	C38-...
ⓘ	Standard	3.5xD	2.200 - 2.400	8-29/64	10-49/64	CV40	**R38X35-CV40**	C38-...
	Standard	4.5xD	2.200 - 2.400	10-61/64	13-17/64	CV40	**R38X45-CV40**	C38-...
	Stacked Plate	2.2xD	2.200 - 2.400	5-3/8	7-43/64	CV40	**SP38X22-CV40**	C38SP-...

*Holder includes cartridges; however, inserts are sold separately.



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	2.200 - 2.400	5-29/64	7-49/64	CV50	**R38X22-CV50**	C38-...
ⓘ	Standard	3.5xD	2.200 - 2.400	8-29/64	10-49/64	CV50	**R38X35-CV50**	C38-...
	Standard	4.5xD	2.200 - 2.400	10-61/64	13-17/64	CV50	**R38X45-CV50**	C38-...
	Stacked Plate	2.2xD	2.200 - 2.400	5-3/8	7-43/64	CV50	**SP38X22-CV50**	C38SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R38...	**C38-FIX**	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C38-ADJ	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
SP38...	**C38SP-FIX**	2	MS-17M-1	5 mm	AS-18T9-1	8T-9
	C38SP-ADJ	2	MS-17M-1	5 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

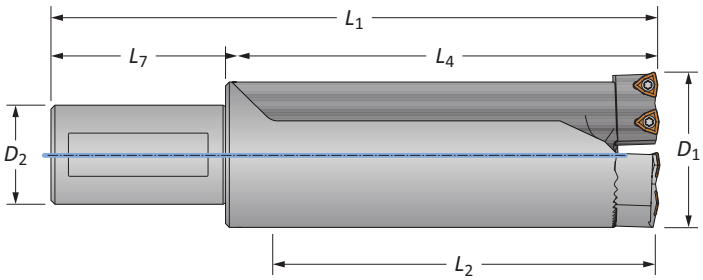
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

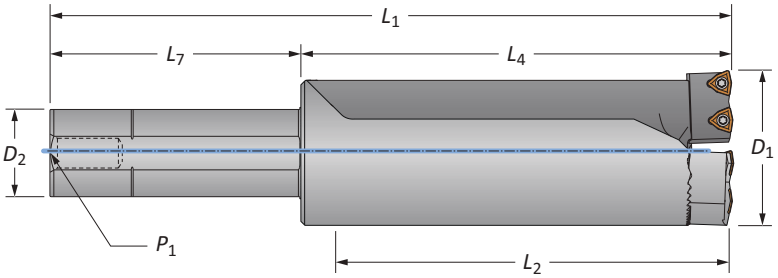
42 Series | Diameter Range: 60.96 mm - 66.04 mm (2.400" - 2.600")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	2.2xD	60.96 - 66.04	144.88	171.68	241.68	40.00	70.00	–	**R42X22-40M**	C42-...
ⓜ	Standard	3.5xD	60.96 - 66.04	233.78	260.58	330.58	40.00	70.00	–	**R42X35-40M**	C42-...
	Standard	4.5xD	60.96 - 66.04	297.28	324.08	394.08	40.00	70.00	–	**R42X45-40M**	C42-...
	Stacked Plate	2.2xD	60.96 - 66.04	146.10	172.90	242.90	40.00	70.00	–	**SP42X22-40M**	C42SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	2.2xD	2.400 - 2.600	5-45/64	6-49/64	10-49/64	1-1/2	4	1/4	**R42X22-150L**	C42-...
ⓘ	Standard	3.5xD	2.400 - 2.600	9-13/64	10-17/64	14-17/64	1-1/2	4	1/4	**R42X35-150L**	C42-...
	Standard	4.5xD	2.400 - 2.600	11-45/64	12-49/64	16-49/64	1-1/2	4	1/4	**R42X45-150L**	C42-...
	Stacked Plate	2.2xD	2.400 - 2.600	5-3/4	6-13/16	10-13/16	1-1/2	4	1/4	**SP42X22-150L**	C42SP-...

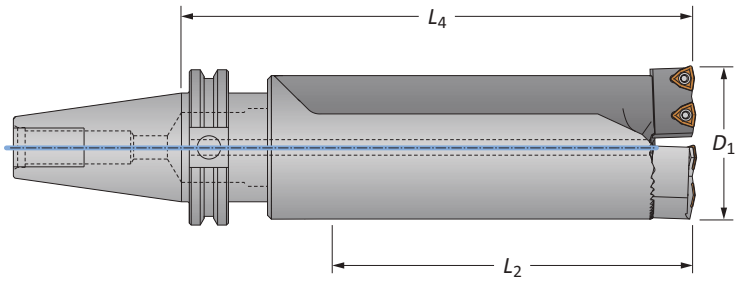
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

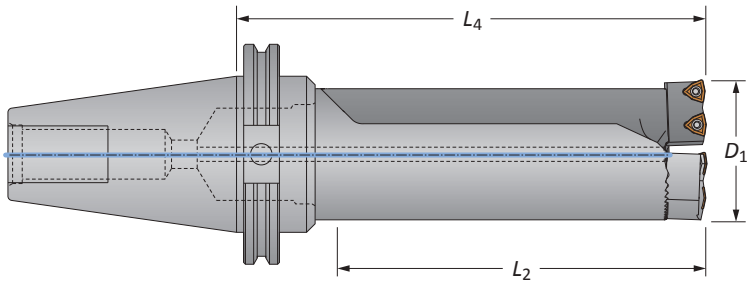
42 Series | Diameter Range: 60.96 mm - 66.04 mm (2.400" - 2.600")



CV40 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	2.400 - 2.600	5-45/64	8-9/64	CV40	**R42X22-CV40**	C42-...
ⓘ	Standard	3.5xD	2.400 - 2.600	9-13/64	11-41/64	CV40	**R42X35-CV40**	C42-...
	Standard	4.5xD	2.400 - 2.600	11-45/64	14-9/64	CV40	**R42X45-CV40**	C42-...
	Stacked Plate	2.2xD	2.400 - 2.600	5-3/4	8-3/16	CV40	**SP42X22-CV40**	C42SP-...

*Holder includes cartridges; however, inserts are sold separately.



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	2.400 - 2.600	5-45/64	8-9/64	CV50	**R42X22-CV50**	C42-...
ⓘ	Standard	3.5xD	2.400 - 2.600	9-13/64	11-41/64	CV50	**R42X35-CV50**	C42-...
	Standard	4.5xD	2.400 - 2.600	11-45/64	14-9/64	CV50	**R42X45-CV50**	C42-...
	Stacked Plate	2.2xD	2.400 - 2.600	5-3/4	8-3/16	CV50	**SP42X22-CV50**	C42SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R42...	**C42-FIX**	2	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C42-ADJ	2	MS-19M-1	6 mm	AS-18T9-1	8T-9
SP42...	**C42SP-FIX**	2	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C42SP-ADJ	2	MS-19M-1	6 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

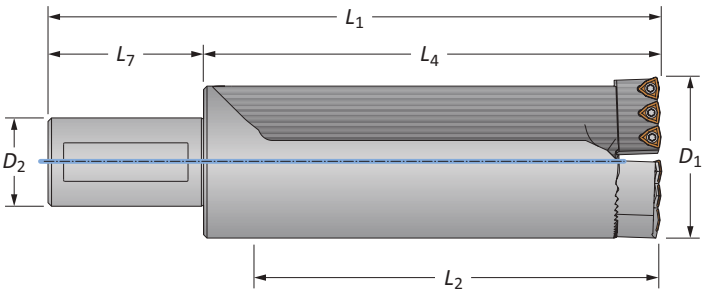
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

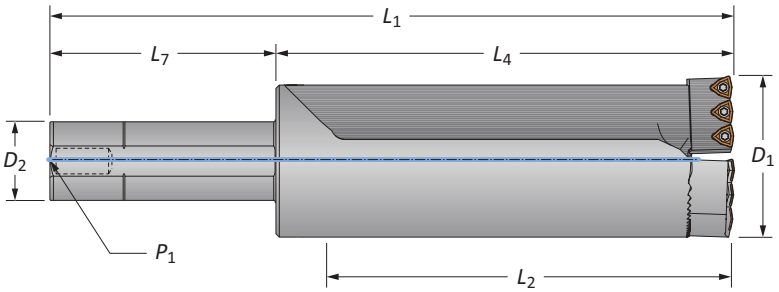
44 Series | Diameter Range: 66.04 mm - 71.12 mm (2.600" - 2.800")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	2.2xD	66.04 - 71.12	157.63	190.65	260.65	40.00	70.00	–	**R44X22-40M**	C44-...
ⓜ	Standard	3.5xD	66.04 - 71.12	252.88	285.90	355.90	40.00	70.00	–	**R44X35-40M**	C44-...
	Stacked Plate	2.2xD	66.04 - 71.12	158.70	191.69	261.70	40.00	70.00	–	**SP44X22-40M**	C44SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	2.2xD	2.600 - 2.800	6-13/64	7-1/2	11-1/2	1-1/2	4	1/4	**R44X22-150L**	C44-...
ⓘ	Standard	3.5xD	2.600 - 2.800	9-61/64	11-1/4	15-1/4	1-1/2	4	1/4	**R44X35-150L**	C44-...
	Stacked Plate	2.2xD	2.600 - 2.800	6-1/4	7-35/64	11-35/64	1-1/2	4	1/4	**SP44X22-150L**	C44SP-...

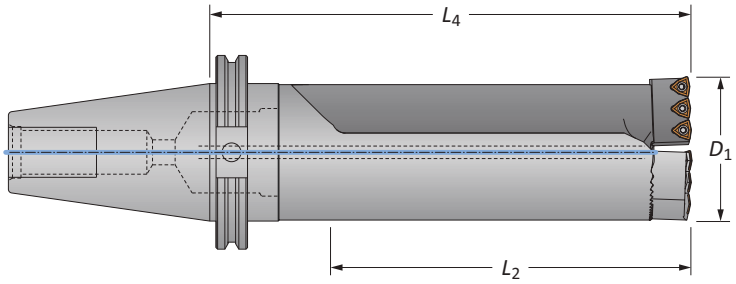
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

44 Series | Diameter Range: 66.04 mm - 71.12 mm (2.600" - 2.800")



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	2.600 - 2.800	6-13/64	8-7/8	CV50	**R44X22-CV50**	C44-...
ⓘ	Standard	3.5xD	2.600 - 2.800	9-61/64	12-5/8	CV50	**R44X35-CV50**	C44-...
	Stacked Plate	2.2xD	2.600 - 2.800	6-1/4	8-59/64	CV50	**SP44X22-CV50**	C44SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R44...	**C44-FIX**	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C44-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
SP44...	**C44SP-FIX**	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C44SP-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

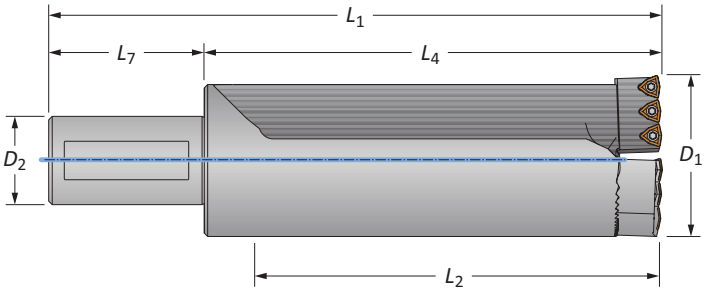
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

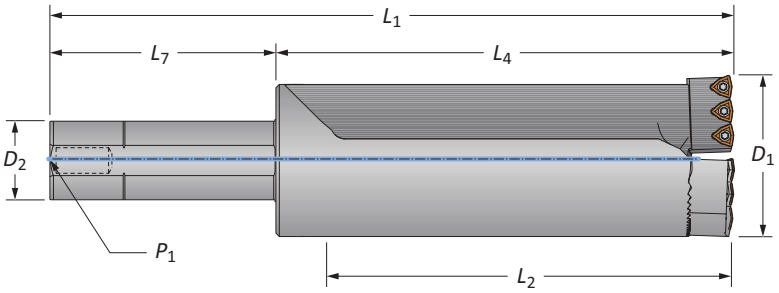
46 Series | Diameter Range: 71.12 mm - 76.20 mm (2.800" - 3.000")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	2.2xD	71.12 - 76.20	170.36	203.38	273.38	40.00	70.00	–	**R46X22-40M**	C46-...
ⓜ	Standard	3.5xD	71.12 - 76.20	265.61	298.63	368.63	40.00	70.00	–	**R46X35-40M**	C46-...
	Stacked Plate	2.2xD	71.12 - 76.20	171.40	204.39	274.40	40.00	70.00	–	**SP46X22-40M**	C46SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	2.2xD	2.800 - 3.000	6-45/64	8	12	1-1/2	4	1/4	**R46X22-150L**	C46-...
ⓘ	Standard	3.5xD	2.800 - 3.000	10-29/64	11-3/4	15-3/4	1-1/2	4	1/4	**R46X35-150L**	C46-...
	Stacked Plate	2.2xD	2.800 - 3.000	6-3/4	8-3/64	12-3/64	1-1/2	4	1/4	**SP46X22-150L**	C46SP-...

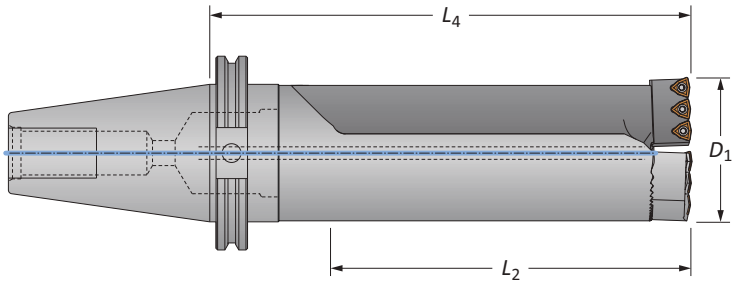
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

46 Series | Diameter Range: 71.12 mm - 76.20 mm (2.800" - 3.000")



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	2.2xD	2.800 - 3.000	6-45/64	9-25/64	CV50	**R46X22-CV50**	C46-...
ⓘ	Standard	3.5xD	2.800 - 3.000	10-29/64	13-1/8	CV50	**R46X35-CV50**	C46-...
	Stacked Plate	2.2xD	2.800 - 3.000	6-3/4	9-27/64	CV50	**SP46X22-CV50**	C46SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R46...	**C46-FIX**	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C46-ADJ	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
SP46...	**C46SP-FIX**	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C46SP-ADJ	3	MS-21M-1	8 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

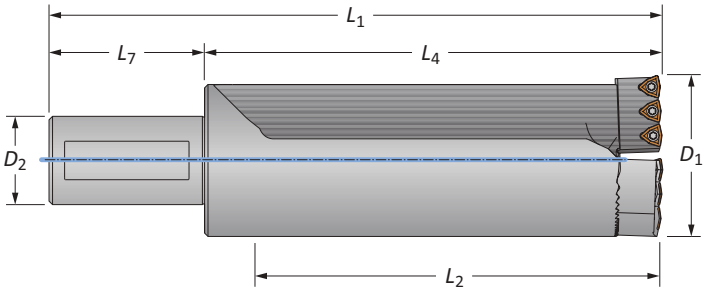
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

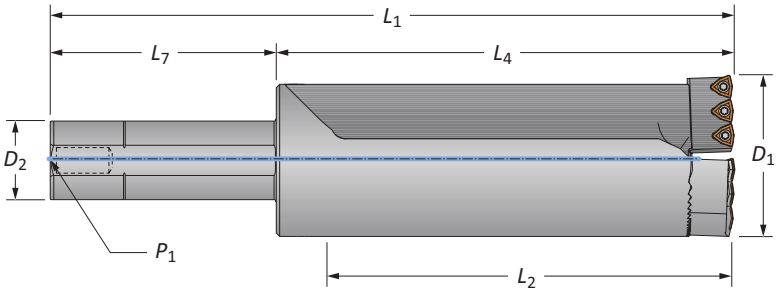
48 Series | Diameter Range: 76.20 mm - 81.28 mm (3.000" - 3.200")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	76.20 - 81.28	80.21	114.50	194.50	50.00	80.00	–	**R48X10-50M**	C48-...
ⓜ	Standard	2.5xD	76.20 - 81.28	200.86	235.15	315.15	50.00	80.00	–	**R48X25-50M**	C48-...
	Stacked Plate	1.0xD	76.20 - 81.28	80.21	116.51	196.52	50.00	80.00	–	**SP48X10-50M**	C48SP-...
	Stacked Plate	2.5xD	76.20 - 81.28	200.86	237.21	317.22	50.00	80.00	–	**SP48X25-50M**	C48SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	3.000 - 3.200	3-5/32	4-33/64	9-1/64	2	4-1/2	1/4	**R48X10-200L**	C48-...
ⓘ	Standard	2.5xD	3.000 - 3.200	7-29/32	9-17/64	13-49/64	2	4-1/2	1/4	**R48X25-200L**	C48-...
	Stacked Plate	1.0xD	3.000 - 3.200	3-15/64	4-19/32	9-3/32	2	4-1/2	1/4	**SP48X10-200L**	C48SP-...
	Stacked Plate	2.5xD	3.000 - 3.200	7-63/64	9-11/32	13-27/32	2	4-1/2	1/4	**SP48X25-200L**	C48SP-...

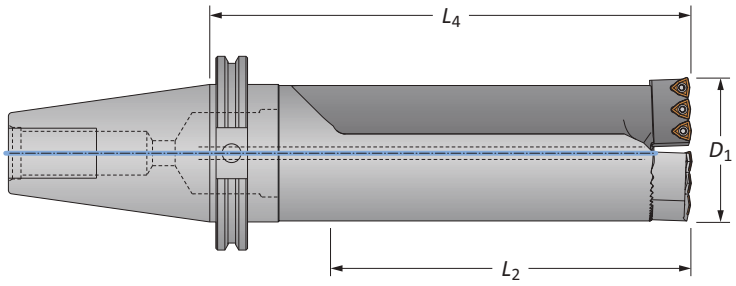
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

48 Series | Diameter Range: 76.20 mm - 81.28 mm (3.000" - 3.200")



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	1.0xD	3.000 - 3.200	3-5/32	5-57/64	CV50	**R48X10-CV50**	C48-...
ⓘ	Standard	2.5xD	3.000 - 3.200	7-29/32	10-41/64	CV50	**R48X25-CV50**	C48-...
	Stacked Plate	1.0xD	3.000 - 3.200	3-15/64	5-31/32	CV50	**SP48X10-CV50**	C48SP-...
	Stacked Plate	2.5xD	3.000 - 3.200	7-63/64	10-23/32	CV50	**SP48X25-CV50**	C48SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R48...	**C48-FIX**	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C48-ADJ	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
SP48...	**C48SP-FIX**	3	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C48SP-ADJ	3	MS-21M-1	8 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

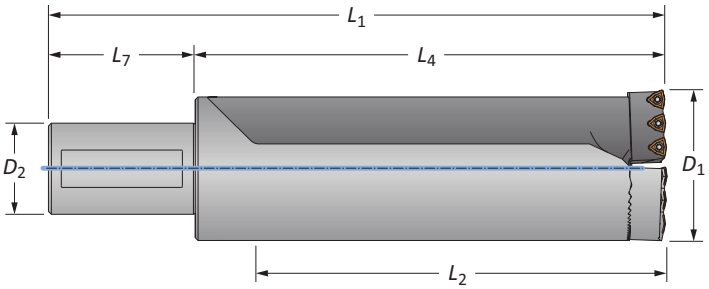
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

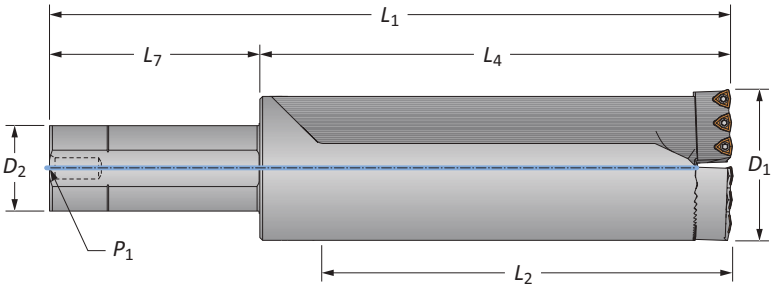
52 Series | Diameter Range: 81.28 mm - 86.36 mm (3.200" - 3.400")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	81.28 - 86.36	86.72	127.23	207.23	50.00	80.00	–	**R52X10-50M**	C52-...
ⓜ	Standard	2.5xD	81.28 - 86.36	213.72	254.02	334.02	50.00	80.00	–	**R52X25-50M**	C52-...
	Stacked Plate	1.0xD	81.28 - 86.36	88.60	129.11	209.12	50.00	80.00	–	**SP52X10-50M**	C52SP-...
	Stacked Plate	2.5xD	81.28 - 86.36	215.60	256.11	336.12	50.00	80.00	–	**SP52X25-50M**	C52SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	3.200 - 3.400	3-27/64	5-1/64	9-33/64	2	4-1/2	1/4	**R52X10-200L**	C52-...
ⓘ	Standard	2.5xD	3.200 - 3.400	8-27/64	10-1/64	14-33/64	2	4-1/2	1/4	**R52X25-200L**	C52-...
	Stacked Plate	1.0xD	3.200 - 3.400	3-31/64	5-5/64	9-37/64	2	4-1/2	1/4	**SP52X10-200L**	C52SP-...
	Stacked Plate	2.5xD	3.200 - 3.400	8-31/64	10-5/64	14-37/64	2	4-1/2	1/4	**SP52X25-200L**	C52SP-...

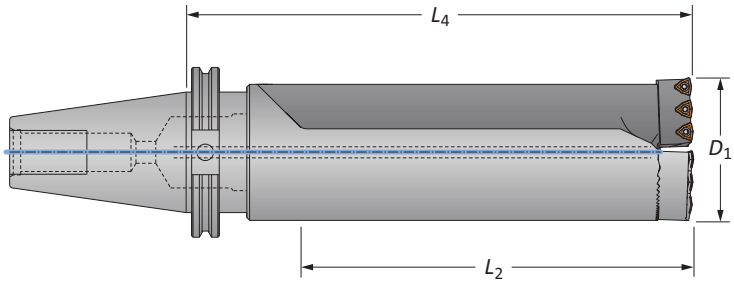
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

52 Series | Diameter Range: 81.28 mm - 86.36 mm (3.200" - 3.400")



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	1.0xD	3.200 - 3.400	3-27/64	6-25/64	CV50	**R52X10-CV50**	C52-...
ⓘ	Standard	2.5xD	3.200 - 3.400	8-27/64	11-25/64	CV50	**R52X25-CV50**	C52-...
	Stacked Plate	1.0xD	3.200 - 3.400	3-31/64	6-29/64	CV50	**SP52X10-CV50**	C52SP-...
	Stacked Plate	2.5xD	3.200 - 3.400	8-31/64	11-29/64	CV50	**SP52X25-CV50**	C52SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R52...	**C52-FIX**	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C52-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
SP52...	**C52SP-FIX**	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C52SP-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

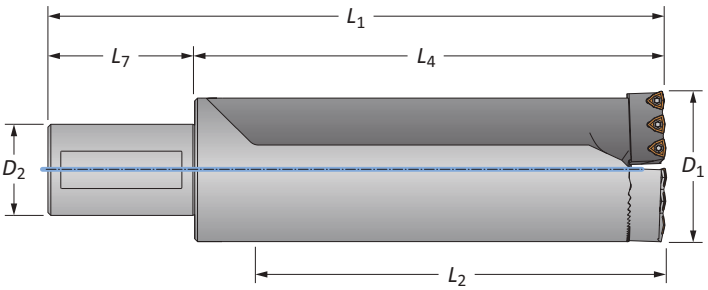
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

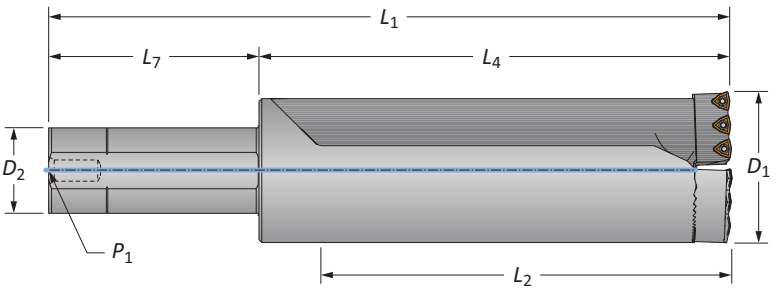
54 Series | Diameter Range: 86.36 mm - 91.44 mm (3.400" - 3.600")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	86.36 - 91.44	92.94	133.58	213.58	50.00	80.00	–	**R54X10-50M**	C54-...
ⓜ	Standard	2.5xD	86.36 - 91.44	226.29	266.93	346.93	50.00	80.00	–	**R54X25-50M**	C54-...
	Stacked Plate	1.0xD	86.36 - 91.44	94.50	135.10	215.10	50.00	80.00	–	**SP54X10-50M**	C54SP-...
	Stacked Plate	2.5xD	86.36 - 91.44	227.81	268.50	348.51	50.00	80.00	–	**SP54X25-50M**	C54SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	3.400 - 3.600	3-21/32	5-17/64	9-49/64	2	4-1/2	1/4	**R54X10-200L**	C54-...
ⓘ	Standard	2.5xD	3.400 - 3.600	8-29/32	10-33/64	15-1/64	2	4-1/2	1/4	**R54X25-200L**	C54-...
	Stacked Plate	1.0xD	3.400 - 3.600	3-23/32	5-21/64	9-53/64	2	4-1/2	1/4	**SP54X10-200L**	C54SP-...
	Stacked Plate	2.5xD	3.400 - 3.600	8-31/32	10-37/64	15-5/64	2	4-1/2	1/4	**SP54X25-200L**	C54SP-...

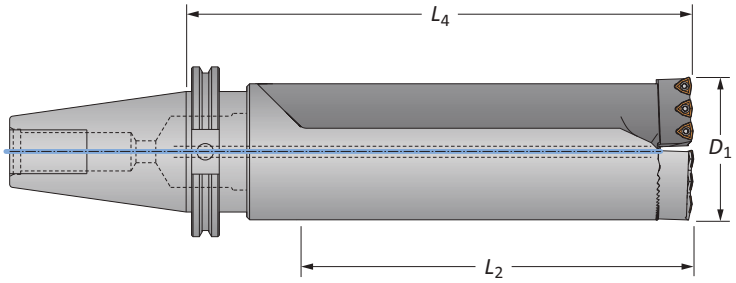
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

54 Series | Diameter Range: 86.36 mm - 91.44 mm (3.400" - 3.600")



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	1.0xD	3.400 - 3.600	3-21/32	6-41/64	CV50	**R54X10-CV50**	C54-...
ⓘ	Standard	2.5xD	3.400 - 3.600	8-29/32	11-57/64	CV50	**R54X25-CV50**	C54-...
	Stacked Plate	1.0xD	3.400 - 3.600	3-23/32	6-11/16	CV50	**SP54X10-CV50**	C54SP-...
	Stacked Plate	2.5xD	3.400 - 3.600	8-31/32	11-15/16	CV50	**SP54X25-CV50**	C54SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R54...	**C54-FIX**	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C54-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
SP54...	**C54SP-FIX**	3	MS-19M-1	6 mm	AS-18T9-1	8T-9
	C54SP-ADJ	3	MS-19M-1	6 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

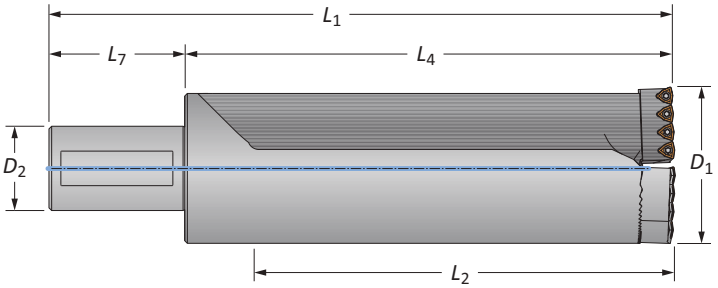
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

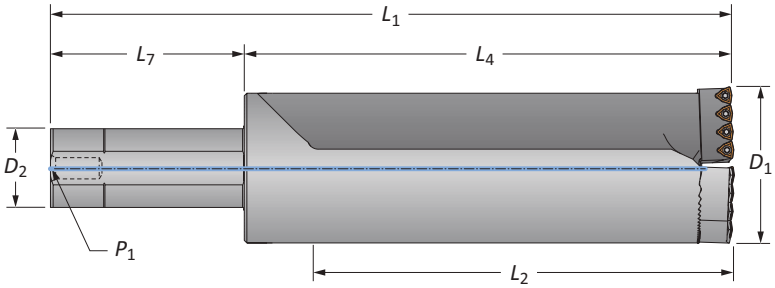
56 Series | Diameter Range: 91.44 mm - 96.52 mm (3.600" - 3.800")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	91.44 - 96.52	98.60	146.23	226.23	50.00	80.00	–	**R56X10-50M**	C56-...
ⓜ	Standard	2.5xD	91.44 - 96.52	238.30	285.93	365.93	50.00	80.00	–	**R56X25-50M**	C56-...
	Stacked Plate	1.0xD	91.44 - 96.52	99.90	147.60	227.61	50.00	80.00	–	**SP56X10-50M**	C56SP-...
	Stacked Plate	2.5xD	91.44 - 96.52	239.60	287.30	367.31	50.00	80.00	–	**SP56X25-50M**	C56SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	3.600 - 3.800	3-7/8	5-3/4	10-1/4	2	4-1/2	1/4	**R56X10-200L**	C56-...
ⓘ	Standard	2.5xD	3.600 - 3.800	9-3/8	11-1/4	15-3/4	2	4-1/2	1/4	**R56X25-200L**	C56-...
	Stacked Plate	1.0xD	3.600 - 3.800	3-15/16	5-13/16	10-5/16	2	4-1/2	1/4	**SP56X10-200L**	C56SP-...
	Stacked Plate	2.5xD	3.600 - 3.800	9-7/16	11-5/16	15-13/16	2	4-1/2	1/4	**SP56X25-200L**	C56SP-...

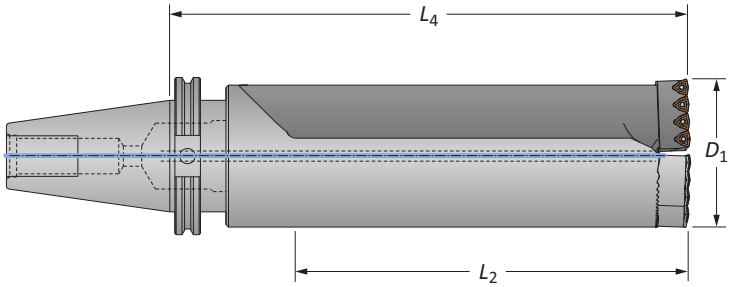
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

56 Series | Diameter Range: 91.44 mm - 96.52 mm (3.600" - 3.800")



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	1.0xD	3.600 - 3.800	3-7/8	7-1/8	CV50	**R56X10-CV50**	C56-...
ⓘ	Standard	2.5xD	3.600 - 3.800	9-3/8	12-5/8	CV50	**R56X25-CV50**	C56-...
	Stacked Plate	1.0xD	3.600 - 3.800	3-15/16	7-3/16	CV50	**SP56X10-CV50**	C56SP-...
	Stacked Plate	2.5xD	3.600 - 3.800	9-7/16	12-11/16	CV50	**SP56X25-CV50**	C56SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R56...	**C56-FIX**	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C56-ADJ	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
SP56...	**C56SP-FIX**	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C56SP-ADJ	4	MS-21M-1	8 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

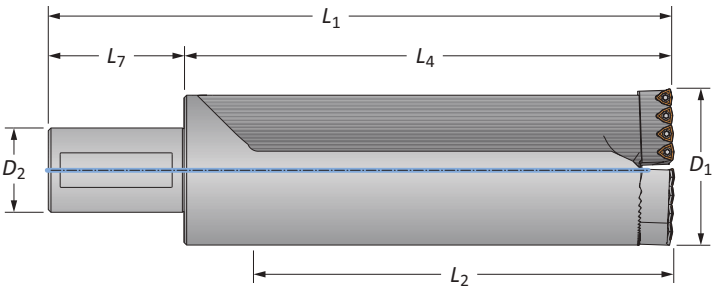
A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

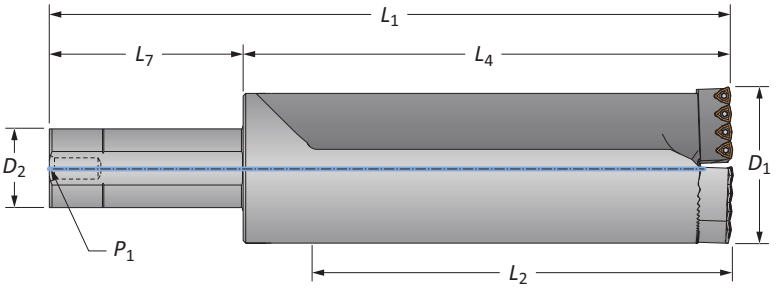
58 Series | Diameter Range: 96.52 mm - 101.60 mm (3.800" - 4.000")



Straight Shank Metric

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	96.52 - 101.60	98.60	146.20	226.20	50.00	80.00	–	**R58X10-50M**	C58-...
ⓜ	Standard	2.5xD	96.52 - 101.60	251.00	298.60	378.60	50.00	80.00	–	**R58X25-50M**	C58-...
	Stacked Plate	1.0xD	96.52 - 101.60	99.80	147.40	227.41	50.00	80.00	–	**SP58X10-50M**	C58SP-...
	Stacked Plate	2.5xD	96.52 - 101.60	252.20	299.80	379.81	50.00	80.00	–	**SP58X25-50M**	C58SP-...

*Holder includes cartridges; however, inserts are sold separately.



Straight Shank Imperial

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Holder L_1	Shank D_2	Shank L_7	Shank P_1	Part No.*	Cartridges
	Standard	1.0xD	3.800 - 4.000	3-7/8	5-3/4	10-1/4	2	4-1/2	1/4	**R58X10-200L**	C58-...
ⓘ	Standard	2.5xD	3.800 - 4.000	9-7/8	11-3/4	16-1/4	2	4-1/2	1/4	**R58X25-200L**	C58-...
	Stacked Plate	1.0xD	3.800 - 4.000	3-15/16	5-13/16	10-5/16	2	4-1/2	1/4	**SP58X10-200L**	C58SP-...
	Stacked Plate	2.5xD	3.800 - 4.000	9-15/16	11-13/16	16-5/16	2	4-1/2	1/4	**SP58X25-200L**	C58SP-...

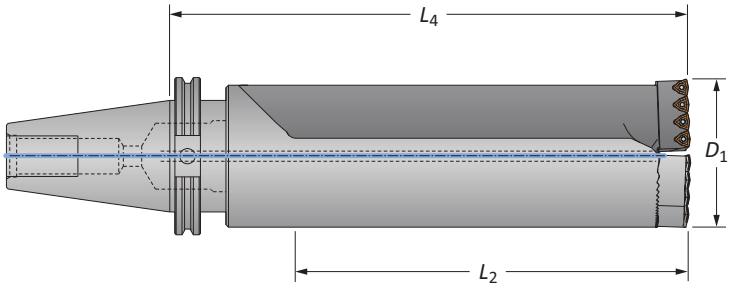
*Holder includes cartridges; however, inserts are sold separately.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Revolution Drill Holders

58 Series | Diameter Range: 96.52 mm - 101.60 mm (3.800" - 4.000")



CV50 Shank

	Style	Length	D_1 Range	Holder L_2	Holder L_4	Shank	Part No.*	Cartridges
	Standard	1.0xD	3.800 - 4.000	3-7/8	7-1/8	CV50	**R58X10-CV50**	C58-...
ⓘ	Standard	2.5xD	3.800 - 4.000	9-7/8	13-1/8	CV50	**R58X25-CV50**	C58-...
	Stacked Plate	1.0xD	3.800 - 4.000	3-15/16	7-3/16	CV50	**SP58X10-CV50**	C58SP-...
	Stacked Plate	2.5xD	3.800 - 4.000	9-15/16	13-3/16	CV50	**SP58X25-CV50**	C58SP-...

*Holder includes cartridges; however, inserts are sold separately.

Cartridges

Holder Part No.	Replacement Cartridges	Qty. Inserts Needed	Mounting Screw	Key Size	Adjusting Screw	Driver
R58...	**C58-FIX**	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C58-ADJ	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
SP58...	**C58SP-FIX**	4	MS-21M-1	8 mm	AS-18T9-1	8T-9
	C58SP-ADJ	4	MS-21M-1	8 mm	AS-18T9-1	8T-9

IC Inserts

Carbide Grade	Geometry	Part No. AM300®	Part No. AM200®	Part No. TiN	Insert Screws*	Driver
P35 (C5)	Standard	**OP-05T308-P**	**OP-05T308-H**	**OP-05T308-T**	IS-10-1	8T-9
K35 (C1)	Standard	**OP-05T308-1P**	**OP-05T308-1H**	**OP-05T308-1T**	IS-10-1	8T-9
K25 (C2)	Standard	**OP-05T308-2P**	**OP-05T308-2H**	–	IS-10-1	8T-9
P35 (C5)	High Rake	**OP-05T308-PHR**	**OP-05T308-HHR**	–	IS-10-1	8T-9

*Admissible Tightening Torque: 15.5 in-lbs (175 N-cm). Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

A60: 28 - 29
Key on A60: 1
A60: 2 - 4

Mounting screws sold in multiples of 4 | Adjusting screws sold in multiples of 4
IC inserts sold in multiples of 10 | Insert screws sold in multiples of 10

ⓜ = Metric (mm)
ⓘ = Imperial (in)

Recommended Cutting Data | Metric (mm)

ISO	Material	Hardness (BHN)	Speed (m/min) AM300®	Speed (m/min) AM200®	Speed (m/min) TiN	Feed Rate (mm/rev)
P	**Free-Machining Steel** 1118, 1215, 12L14, etc.	100 - 250	274 - 396	259 - 366	213 - 274	0.09 - 0.18
P	**Low-Carbon Steel** 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	259 - 381	244 - 351	198 - 259	0.08 - 0.17
P	**Medium-Carbon Steel** 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	244 - 320	229 - 290	183 - 259	0.09 - 0.17
P	**Alloy Steel** 4140, 5140, 8640, etc.	125 - 375	229 - 305	213 - 274	183 - 259	0.09 - 0.17
P	**High-Strength Alloy** 4340, 4330V, 300M, etc.	225 - 400	183 - 259	168 - 229	122 - 198	0.08 - 0.13
P	**Structural Steel** A36, A285, A516, etc.	100 - 350	259 - 320	244 - 290	198 - 259	0.08 - 0.17
P	**Tool Steel** H-13, H-21, A-4, 0-2, S-3, etc.	150 - 250	122 - 244	107 - 213	76 - 198	0.06 - 0.13
S	**High-Temp Alloy** Hastelloy B, Inconel 600, etc.	140 - 310	76 - 137	76 - 107	46 - 91	0.06 - 0.11
M	**Stainless Steel 400 Series** 416, 420, etc.	185 - 350	183 - 259	168 - 229	122 - 198	0.08 - 0.15
M	**Stainless Steel 300 Series** 304, 316, 17-4PH, etc.	135 - 275	183 - 259	168 - 229	122 - 198	0.08 - 0.15
M	**Super Duplex Stainless Steel**	135 - 275	152 - 228	137 - 198	91 - 152	0.05 - 0.12
K	**Nodular, Grey, Ductile Cast Iron**	120 - 320	213 - 274	198 - 244	152 - 213	0.10 - 0.20
N	**Cast Aluminium**	30 - 180	381 - 503	381 - 472	290 - 335	0.15 - 0.30
N	**Wrought Aluminium**	30 - 180	381 - 503	381 - 472	290 - 335	0.15 - 0.30
N	**Brass**	30 - 100	290 - 411	274 - 381	229 - 335	0.13 - 0.23

Material Constants

Type of Material	Hardness (BHN)	K_m (kPa)
Free-Machining Steel	100 - 250	5.17
Low-Carbon Steel	85 - 275	5.86
Medium-Carbon Steel	125 - 325	6.21
Alloy Steel	125 - 375	6.90
High-Strength Steel	225 - 400	7.93
Structural Steel	100 - 350	6.90
Tool Steel	150 - 250	6.21
High-Temperature Alloy	140 - 310	9.93
Titanium Alloy	140 - 310	4.97
Aerospace Alloy	185 - 350	4.48
Stainless Steel 400 Series	185 - 350	7.45
Stainless Steel 300 Series	135 - 275	6.48
Super Duplex Stainless Steel	135 - 275	6.48
Wear Plate	400 - 600	11.04
Hardened Steel	300 - 500	9.66
Nodular, Ductile Cast Iron	120 - 320	4.48
Grey Cast Iron	120 - 320	5.17
Cast Aluminium	30 - 180	2.76
Wrought Aluminium	30 - 180	2.76
Aluminium Bronze	100 - 250	3.45
Brass	100	2.41
Copper	60	2.07

Formulas

1. **RPM** = **(318.31 • m/min) / DIA**

where:

RPM = revolutions per minute (rev/min)
m/min = speed (m/min)
DIA = diameter of drill (mm)

2. **kW** = **(DIA^2 • mm/rev • RPM • K_m) / 181,018**

where:

kW = tool power (kW)
DIA = diameter of drill (mm)
mm/rev = feed rate (mm/rev)
RPM = revolutions per minute (rev/min)
K_m = specific cutting energy (kPa)
machine efficiency (using 181,018 as constant)

3. **Thrust** = **148.78 • mm/rev • DIA • K_m**

where:

Thrust = axial thrust (N)
mm/rev = feed rate (mm/rev)
DIA = diameter of drill (mm)
K_m = specific cutting energy (kPa)

4. **Torque** = **(kW • 9549.3) / RPM**

where:

Torque = torque (Nm)
HP = tool power (kW)
RPM = revolutions per minute (rev/min)

The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the Editor of the *Machinery's Handbook*.

IMPORTANT: The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is available for your specific applications through our Application Engineering department. *email:* **engineering.eu@alliedmachine.com**

Recommended Cutting Data | Imperial (inch)

ISO	Material	Hardness (BHN)	Speed (SFM) AM300®	Speed (SFM) AM200®	Speed (SFM) TiN	Feed Rate (IPR)
P	**Free-Machining Steel** 1118, 1215, 12L14, etc.	100 - 250	900 - 1300	850 - 1200	700 - 900	0.0035 - 0.007
P	**Low-Carbon Steel** 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	850 - 1250	800 - 1150	650 - 850	0.003 - 0.0065
P	**Medium-Carbon Steel** 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	800 - 1050	750 - 950	600 - 850	0.0035 - 0.0065
P	**Alloy Steel** 4140, 5140, 8640, etc.	125 - 375	750 - 1000	700 - 900	600 - 850	0.0035 - 0.0065
P	**High-Strength Alloy** 4340, 4330V, 300M, etc.	225 - 400	600 - 850	550 - 750	400 - 650	0.003 - 0.005
P	**Structural Steel** A36, A285, A516, etc.	100 - 350	850 - 1050	800 - 950	650 - 850	0.003 - 0.0065
P	**Tool Steel** H-13, H-21, A-4, 0-2, S-3, etc.	150 - 250	400 - 800	350 - 700	250 - 650	0.0025 - 0.005
S	**High-Temp Alloy** Hastelloy B, Inconel 600, etc.	140 - 310	250 - 450	250 - 350	150 - 300	0.0025 - 0.005
M	**Stainless Steel 400 Series** 416, 420, etc.	185 - 350	600 - 850	550 - 750	400 - 650	0.003 - 0.006
M	**Stainless Steel 300 Series** 304, 316, 17-4PH, etc.	135 - 275	600 - 850	550 - 750	400 - 650	0.003 - 0.006
M	**Super Duplex Stainless Steel**	135 - 275	500 - 750	450 - 650	300 - 550	0.002 - 0.005
K	**Nodular, Grey, Ductile Cast Iron**	120 - 320	700 - 900	650 - 800	500 - 700	0.004 - 0.008
N	**Cast Aluminium**	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	0.006 - 0.012
N	**Wrought Aluminium**	30 - 180	1250 - 1650	1200 - 1550	950 - 1100	0.006 - 0.012
N	**Brass**	30 - 100	950 - 1350	900 - 1250	750 - 1100	0.005 - 0.009

Material Constants

Type of Material	Hardness (BHN)	K_m (lbs/in²)
Free-Machining Steel	100 - 250	0.75
Low-Carbon Steel	85 - 275	0.85
Medium-Carbon Steel	125 - 325	0.90
Alloy Steel	125 - 375	1.00
High-Strength Steel	225 - 400	1.15
Structural Steel	100 - 350	1.00
Tool Steel	150 - 250	0.90
High-Temperature Alloy	140 - 310	1.44
Titanium Alloy	140 - 310	0.72
Aerospace Alloy	185 - 350	0.70
Stainless Steel 400 Series	185 - 350	1.08
Stainless Steel 300 Series	135 - 275	0.94
Super Duplex Stainless Steel	135 - 275	0.94
Wear Plate	400 - 600	1.60
Hardened Steel	300 - 500	1.40
Nodular, Ductile Cast Iron	120 - 320	0.65
Grey Cast Iron	120 - 320	0.75
Cast Aluminium	30 - 180	0.40
Wrought Aluminium	30 - 180	0.40
Aluminium Bronze	100 - 250	0.50
Brass	100	0.35
Copper	60	0.30

Formulas

1. **RPM = (3.82 • SFM) / DIA**

where:

RPM = revolutions per minute (rev/min)
SFM = speed (ft/min)
DIA = diameter of drill (inch)

2. **HP = (0.6676 • DIA² • IPR • RPM • K_m) / 0.80**

where:

Tool Power = tool power (HP)
DIA = diameter of drill (inch)
IPR = feed rate (in/rev)
RPM = revolutions per minute (rev/min)
K_m = specific cutting energy (lbs/in²)
machine efficiency (using 0.80 as constant)

3. **Thrust = 148,500 • IPR • DIA • K_m**

where:

Thrust = axial thrust (lbs)
IPR = feed rate (in/rev)
DIA = diameter of drill (inch)
K_m = specific cutting energy (lbs/in²)

4. **Torque = (HP • 5252) / RPM**

where:

Torque = torque (ft-lbs)
HP = tool power (HP)
RPM = revolutions per minute (rev/min)

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IMPORTANT: The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is available for your specific applications through our Application Engineering department. *email:* **engineering.eu@alliedmachine.com**

Drilling Guaranteed Application Form

*The following must be filled out completely before your test will be considered

CONTACT DETAILS

Trial P.O. No.*..... Date*..... Proposed Test Date*.....

Favoured Distributor*..... Distributor Contact*.....

Customer Name*..... Industry..... Contact Name*.....

APPLICATION INFORMATION

ATTENTION: The following Information is required to enable the best combination of tooling to be recommended. Please complete all that apply.

Material Type*..... Specification*..... Material Hardness ..... ☐ Kg ☐ BRN ☐ RC ☐ N/mm²

Material Condition ☐ Flat Stock ☐ Round Stock ☐ Tubular Stock ☐ Plate ☐ Stacked Plate ☐ Hot Rolled ☐ Cold Rolled ☐ Casting ☐ Forging

Hole Diameter .....☐ mm ☐ Inch ☐ Hole Depth..... ☐ Through Hole ☐ Blind Hole

Drilled Hole Tolerance Req'd ..... Drilled Hole RMS Finished Req'd ..... ☐ µInch ☐ µMetre

MACHINE SETUP

Machine Type ☐ Machining Centre ☐ Lathe ☐ Boring Mill ☐ Multi-spindle Auto ☐ Multi-spindle Drill ☐ Transfer Line ☐ Gantry Machine ☐ Dial Index Machine ☐ Radial Arm ☐ Gun Drilling Machine ☐ Pedestal Drill ☐ Other: .....

Machine Tool Builder* ..... Model .....

Machine Tool Control* ☐ CNC ☐ NC ☐ Manual ☐ Other .....

Spindle Orientation* ☐ Vertical ☐ Horizontal ☐ Other .....

Machine Shank Required ☐ MAS BT ☐ DIN69871 ☐ HSK Spindle Taper Size ☐ 40 ☐ 50 ☐ 63 ☐ 100 ☐ Other .....

Tool* ☐ Stationary ☐ Revolves

Available Power* ☐ KW ..... ☐ HP ..... Available Feed Trust ..... ☐ Newtons ☐ Lbs

Available Speed* ☐ RPM ..... ☐ M/min ..... ☐ Variable ☐ Fixed

Preferred Shank Type* ☐ Flanged ☐ Morse Taper ☐ RCA ☐ Lathe ☐ Diameter ..... ☐ mm ☐ Inch

Coolant Type* ☐ Cutting Oil ☐ Water Soluble Oil ☐ Air Mist ☐ Air ☐ Dry

Coolant Pressure* ☐ Bar ..... ☐ PSI .....

Coolant Flow Rate* ☐ L/min ..... ☐ GPM ..... Coolant Supply ☐ Through Tool ☐ External

CURRENT DRILL INFORMATION

Drill Manufacturer ..... Part Number .....

Drill Type ☐ Twist ☐ Brazed ☐ Indexable Insert ☐ Gun Drill ☐ Removable Tip ☐ Other .....

Tool Grade ☐ HSS ☐ Carbide ☐ Ceramic ☐ Other .....

Tool Coating ☐ Uncoated ☐ TiN ☐ TiCN ☐ TiAlN ☐ Other .....

Current Speed ☐ RPM ..... ☐ M/min ..... Current Feed Rate ☐ mm/rev ..... ☐ mm/min .....

Average Number of Holes Drilled New ..... After Regrind? .....

Reason(s) for Tool change ☐ Wear ☐ Fracture ☐ Chipping ☐ Losing Hole Tolerance ☐ Losing Chip Control ☐ Burr ☐ Other ..... ☐ Chatter ☐ New Application

What criteria defines a successful test* ☐ Decreased Cycle Time ☐ Better Chip Control ☐ Safer Process ☐ Longer Tool Life ☐ Reduced Cost per Hole ☐ Other .....

Current Annual Usage €/£: ..... Current Tools per Annum? .....

*Required fields where applicable

FOR OFFICE USE ONLY

Application Engineer:

Number:

Status:

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Complete information as to operating conditions, machine, setup, and the application of cutting fluid should accompany any product returned for inspection. This warranty shall not apply to any Allied Machine products which have been subjected to misuse, abuse, improper operating conditions, improper machine setup or improper application of cutting fluid or which have been repaired or altered if such repair or alteration, in the judgement of Allied Machine, would adversely affect the performance of the product.

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