

NPR

New Product Release

MAY 2025 | Metric



ULTRA Jet

POWER Jet

JET SPINDLE PRO

Modular High-Speed Jet Spindle with Option for OnSite Maintenance

NEW replaceable cartridge

NEW 90 Degrees Holder



Highlights



FULLY

Supports OnSite Maintenance

OPTION

One holder for ULTRA & POWER Jet

NEW

ULTRA & POWER Jet 90 Degree ST20



Features

The NEW High-Speed Jet Spindle PRO, with Replaceable Jet Spindle Cartridge, Comes with the Following Key Features & Benefits

FEATURE	BENEFIT
NEW cartridge design	On-sight maintenance
Modular Design	Less parts, more options
High precision ER11 ER11 GHS & AAA UP Collet	Supports cutting tools with 6mm shank, with precision
Low run out	Accuracy up to 3 microns
Optimal performance	Output power of large jet spindle in mini size design
High speed precision ball bearings	High speed machining up to 55,000 RPM
All the options	Power, Speed and Power & Speed
Full Support for MTBs	Cartridge design is ideal for MTB Holder manufacturers
NEW high-pressure turbine	Spindle powered by 15 to 70 bar high pressure coolant



Customers

High Pressure Coolant Driven Jet Spindle for All Milling & Turning Centers - PlugnPlay!

Prerequisites to Qualify Customer:

1. Coolant flows through the main CNC machine spindle
2. Min. coolant pressure, of main spindle outlet: 15 bar (HPC)
3. Max. coolant pressure, of main spindle outlet: 70 bar (HPC)
4. Minimum flow rate: 10 l/min
5. Filter element: Min. 100 µm
6. Active mist collector
7. When using emulsion coolant, use an anti-foaming agent additive suitable for emulsion
8. When using oil-based coolant, high-pressure increases oil fumes:
9. a. Use appropriate means of fire protection
b. Use anti-dissolution additive suitable for oil
10. During replacement of coolant or coolant filter:
 - a. Remove Jet Spindle from the ATC.
 - b. Run high pressure coolant pump for 10 sec before reinstalling Jet spindle in ATC.
11. Max. viscosity 15 mm²/s.





SPEED FOR SMALL TOOLS

JET SPINDLE OPERATING PARAMETERS					ULTRA Jet
High Pressure Coolant (BAR)		20	40	Terms of Use	
Min Coolant Inlet Diameter		4 mm		Collet	ER11 ER11 AA/UP
Min Flow Rate (L/min)		10	20	Runout	3 micron At length of 3D
Idle Speed (RPM)		33,000	55,000		
Max Power (W) / Torque (Nmm)		37 / 12	115 / 25	SMALL TOOL EXPERTISE REQUIRED	
Application	Cutting tool [mm]	P	M	N	S
Drilling		0.1 - 1.0		0.1 - 2.0	
Milling	Single / 2 / 4 Flute Helical, Corner Radii	0.1 - 2.0		0.1 - 3.0	
Profiling	Ball-Nose	0.1 - 2.0		0.1 - 3.0	
Chamfering		0.1 - 2.0		0.1 - 3.0	
Lollipop	Lollipop	0.2 - 2.0		0.2 - 3.0	
Profiling	Barrel	0.5 - 2.0		0.5 - 3.0	
Engraving		0.2 - 2.0		0.2 - 3.0	
FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: https://colibrispindles.com/catalog/					
ADAPTER	C5/6	CAT40	SK30/40	ER32/ST20	HSK-A40/A63 BT30/40





POWER & SPEED

JET SPINDLE OPERATING PARAMETERS					POWER Jet	
High Pressure Coolant (BAR)	15	20	40	70	Terms of Use	
Min Coolant Inlet Diameter	4 mm				Collet	ER11 AA/UP
Min Flow Rate (L/min)	10	12	16	22	Runout	3 micron
Idle Speed (RPM)	20,000	25,000	35,000	45,000		
Max Power (W) / Torque (Nmm)	53 / 20	71 / 27	188 / 57	409 / 93	SMALL TOOL EXPERTISE REQUIRED	
Application	Cutting Tool [mm]		P	M	N	S
Drilling			0.5 - 2.0		0.5 - 3.0	
Milling	Single / 2 / 4 Flute Helical, Corner Radii		0.3 - 4.0		0.3 - 6.0	
Profiling	Ball-Nose		0.3 - 6.0		0.3 - 6.0	
Chamfering			0.1 - 4.0		1.0 - 6.0	
Deburring	Lollipop		0.1 - 4.0		1.0 - 6.0	
Profiling	Barrel		0.5 - 4.0		0.5 - 6.0	
Engraving (45-60°)			0.2 - 5.0		0.2 - 6.0	
FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: https://colibrispindles.com/catalog/						
ADAPTER	C5/6	CAT 40/50	SK30/40	BT30/40	HSK-A40/A63	ER32/ST20



JET SPINDLE PRO

NPR
New Product Release

POWER Jet - Recommended Cutting Parameters

MAY 2025 | Metric

POWER Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
N	Al-Si 9%	Drilling	Drill	0.3	80-160 HB	15	22,000	0.30	0.025	0.002
				0.3		20	25,000	0.30	0.027	0.002
				0.3		40	35,000	0.30	0.027	0.002
				0.3		70	45,000	0.30	0.027	0.002
				0.5		15	22,000	0.50	0.050	0.003
				0.5		20	25,000	0.50	0.050	0.003
				0.5		40	35,000	0.50	0.070	0.003
				0.5		70	45,000	0.30	0.100	0.003
				0.8		15	22,000	0.80	0.100	0.003
				0.8		20	25,000	0.80	0.150	0.003
				0.8		40	35,000	0.80	0.150	0.003
				0.8		70	45,000	0.80	0.150	0.003
				1		15	22,000	1.00	0.150	0.008
				1		20	25,000	1.00	0.150	0.008
				1		70	45,000	1.00	0.350	0.008
				1.5		15	22,000	1.50	0.150	0.008
				1.5		20	25,000	1.50	0.200	0.008
				1.5		40	35,000	1.50	0.250	0.008
				1.5		70	45,000	1.50	0.350	0.008
				2		15	22,000	2.00	0.200	0.008
				2		20	25,000	2.00	0.250	0.008
				2		40	35,000	2.00	0.300	0.008
				2		70	45,000	2.00	0.380	0.008
				3		15	22,000	3.00	0.150	0.008
				3		20	25,000	3.00	0.200	0.008
				3		40	35,000	3.00	0.350	0.008
				3		70	45,000	3.00	0.400	0.008
				4		15	22,000	4.00	0.150	0.008
				4		20	25,000	4.00	0.250	0.010
				4		40	35,000	4.00	0.250	0.010
				4		70	45,000	4.00	0.300	0.010
				5		15	22,000	5.00	0.175	0.008
				5		20	25,000	5.00	0.200	0.010
				5		40	35,000	5.00	0.200	0.010
				5		70	45,000	5.00	0.350	0.010
				6		15	22,000	6.00	0.300	0.008
				6		20	25,000	6.00	0.300	0.010
				6		40	35,000	6.00	0.350	0.010
				6		70	45,000	6.00	0.400	0.010
		Profile Milling	Ball Nose	0.5		15	22,000	0.06	0.05	0.008
				0.5		20	25,000	0.06	0.05	0.010
				0.5		40	35,000	0.07	0.13	0.012
				0.5		70	45,000	0.07	0.13	0.012
				0.8		15	22,000	0.06	0.05	0.008
				0.8		20	25,000	0.06	0.05	0.010
				0.8		40	35,000	0.07	0.13	0.012
				0.8		70	45,000	0.07	0.13	0.012
				1		15	22,000	0.10	0.08	0.004
				1		20	25,000	0.10	0.08	0.004
				1		40	35,000	0.11	0.15	0.004
				1		70	45,000	0.07	0.15	0.012
				1.5		15	22,000	0.12	0.08	0.006
				1.5		20	25,000	0.13	0.09	0.006
				1.5		40	35,000	0.15	0.15	0.006
				1.5		70	45,000	0.07	0.15	0.012
				2		15	22,000	0.15	0.050	0.003
				2		20	25,000	0.16	0.050	0.003
				2		40	35,000	0.20	0.120	0.003
				2		70	45,000	0.07	0.130	0.004
				2.5		15	22,000	0.15	0.050	0.003
				2.5		20	25,000	0.16	0.050	0.003
				2.5		40	35,000	0.25	0.130	0.003
				2.5		70	45,000	0.07	0.130	0.005
				3		15	22,000	0.22	0.075	0.004
				3		20	25,000	0.25	0.075	0.004
				3		40	35,000	0.25	0.100	0.004
				3		70	45,000	0.07	0.130	0.005
				4		15	22,000	0.20	0.080	0.006
				4		20	25,000	0.25	0.090	0.006
				4		40	35,000	0.27	0.100	0.006
				4		70	45,000	0.07	0.130	0.007
				5		15	22,000	0.25	0.070	0.004
				5		20	25,000	0.26	0.075	0.004
				5		40	35,000	0.28	0.120	0.004
				5		70	45,000	0.07	0.130	0.006
				6		15	22,000	0.23	0.085	0.006
				6		20	25,000	0.25	0.090	0.006
				6		40	35,000	0.25	0.120	0.006
				6		70	45,000	0.07	0.130	0.008

COLIBRI
SPINDLES

POWER Jet - Recommended Cutting Parameters

POWER Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
N	Al-Si 9%	Slot Milling	End-Mill	0.5	80-160 HB	15	22,000	0.50	0.100	0.008
				0.5		20	25,000	0.50	0.100	0.008
				0.5		40	35,000	0.50	0.100	0.008
				0.5		70	45,000	0.50	0.100	0.008
				0.8		15	22,000	0.80	0.160	0.008
				0.8		20	25,000	0.80	0.160	0.008
				0.8		40	35,000	0.80	0.160	0.008
				0.8		70	45,000	0.80	0.160	0.008
				1		15	22,000	1.00	0.200	0.020
				1		20	25,000	1.00	0.200	0.020
				1		40	35,000	1.00	0.200	0.020
				1		70	45,000	1.00	0.200	0.020
				2		15	22,000	2.00	0.400	0.022
				2		20	25,000	2.00	0.400	0.022
				2		40	35,000	2.00	0.400	0.022
				2		70	45,000	2.00	0.400	0.020
				3		15	22,000	3.00	0.600	0.025
				3		20	25,000	3.00	0.600	0.025
				3		40	35,000	3.00	0.600	0.025
				3		70	45,000	3.00	0.600	0.025
				4		15	22,000	4.00	0.800	0.025
				4		20	25,000	4.00	0.800	0.025
				4		40	35,000	4.00	0.800	0.025
				4		70	45,000	4.00	0.800	0.025
				5		15	22,000	5.00	1.000	0.022
				5		20	25,000	5.00	1.000	0.022
				5		40	35,000	5.00	1.000	0.022
				5		70	45,000	5.00	1.000	0.007
				5.5		15	22,000	5.50	1.100	0.022
				5.5		20	25,000	5.50	1.100	0.022
				5.5		40	35,000	5.50	1.100	0.022
				5.5		70	45,000	5.50	1.100	0.022
				6		15	22,000	6.00	1.200	0.022
				6		20	25,000	6.00	1.200	0.022
				6		40	35,000	6.00	1.200	0.022
				6		70	45,000	6.00	1.200	0.022

POWER Jet - Recommended Cutting Parameters

POWER Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
N	Al-Si 9%	Shoulder Mill	End-Mill	1	80-160 HB	15	22,000	0.20	0.100	0.015
				1		20	25,000	0.20	0.150	0.017
				1		40	35,000	0.20	0.150	0.017
				1		70	45,000	0.20	0.150	0.017
				2		15	22,000	0.40	0.100	0.015
				2		20	25,000	0.40	0.100	0.015
				2		40	35,000	0.40	0.100	0.018
				2		70	45,000	0.40	0.150	0.018
				3		15	22,000	0.40	0.100	0.020
				3		20	25,000	0.40	0.150	0.020
				3		40	35,000	0.60	0.150	0.025
				3		70	45,000	0.60	0.150	0.017
				4		15	22,000	0.50	0.100	0.015
				4		20	25,000	0.80	0.100	0.015
				4		40	35,000	0.80	0.100	0.015
				4		70	45,000	0.80	0.150	0.017
				5		15	22,000	0.80	0.100	0.020
				5		20	25,000	1.00	0.130	0.020
				5		40	35,000	1.00	0.150	0.025
				5		70	45,000	1.00	0.150	0.017
				6		15	22,000	0.80	0.100	0.020
				6		20	25,000	0.80	0.100	0.020
				6		40	35,000	0.80	0.100	0.020
				6		70	45,000	1.20	0.150	0.017

POWER Jet - Recommended Cutting Parameters

POWER Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
H	SAE 1.2316	Drilling	Drill	0.3	35 HRC	15	22000	0.30	0.07	0.002
				0.3		20	25000	0.30	0.07	0.002
				0.3		40	35000	0.30	0.07	0.002
				0.3		70	45000	0.30	0.07	0.002
				0.5		15	22000	0.50	0.10	0.004
				0.5		20	25000	0.50	0.10	0.004
				0.5		40	35000	0.50	0.10	0.004
				0.5		70	45000	0.50	0.07	0.004
				0.8		15	22000	0.80	0.10	0.006
				0.8		20	25000	0.80	0.10	0.006
				0.8		40	35000	0.80	0.10	0.006
				0.8		70	45000	0.80	0.07	0.006
				1		15	22000	1.00	0.10	0.006
				1		20	25000	1.00	0.10	0.006
				1		40	35000	1.00	0.10	0.006
				1		70	45000	1.00	0.10	0.006
				1.5		15	22000	1.50	0.10	0.006
				1.5		20	25000	1.50	0.10	0.006
				1.5		40	35000	1.50	0.10	0.006
				1.5		70	45000	1.50	0.10	0.006
				2		15	22000	2.00	0.10	0.008
				2		20	25000	2.00	0.10	0.008
				2		40	35000	2.00	0.10	0.008
				2		70	45000	2.00	0.10	0.008
				2.5		15	22000	2.50	0.10	0.008
				2.5		20	25000	2.50	0.10	0.008
				2.5		40	35000	2.50	0.10	0.008
				2.5		70	45000	2.50	0.10	0.008
				3		15	22000	3.00	0.10	0.008
				3		20	25000	3.00	0.10	0.008
				3		40	35000	3.00	0.10	0.008
				3		70	45000	3.00	0.07	0.008
				3.5		15	22000	3.50	0.10	0.008
				3.5		20	25000	3.50	0.10	0.008
				3.5		40	35000	3.50	0.10	0.008
				3.5		70	45000	3.50	0.10	0.008
		Profile Milling	Ball Nose	0.3		15	22000	0.03	0.02	0.005
				0.3		20	25000	0.03	0.02	0.005
				0.3		40	35000	0.03	0.02	0.005
				0.3		70	35000	0.03	0.02	0.005
				0.5		15	22000	0.05	0.03	0.007
				0.5		20	25000	0.05	0.03	0.007
				0.5		40	35000	0.05	0.03	0.007
				0.5		70	45000	0.05	0.03	0.007
				1		15	22000	0.10	0.06	0.012
				1		20	25000	0.10	0.06	0.012
				1		40	35000	0.10	0.06	0.012
				1		70	45000	0.10	0.10	0.012
				1.5		15	22000	0.15	0.09	0.012
				1.5		20	25000	0.15	0.09	0.012
				1.5		40	35000	0.15	0.09	0.012
				1.5		70	45000	0.15	0.12	0.012
				2		15	22000	0.20	0.12	0.012
				2		20	25000	0.20	0.12	0.012
				2		40	35000	0.20	0.12	0.012
				2		70	45000	0.20	0.15	0.012
				2.5		15	22000	0.25	0.15	0.012
				2.5		20	25000	0.25	0.15	0.012
				2.5		40	35000	0.25	0.15	0.012
				2.5		70	45000	0.25	0.20	0.012
				3		15	22000	0.30	0.18	0.006
				3		20	25000	0.30	0.18	0.006
				3		40	35000	0.30	0.18	0.006
				3		70	45000	0.30	0.20	0.006
				4		15	22000	0.10	0.10	0.006
				4		20	25000	0.10	0.10	0.006
				4		40	35000	0.10	0.10	0.006
				4		70	45000	0.15	0.20	0.006
				5		15	22000	0.10	0.10	0.006
				5		20	25000	0.10	0.10	0.006
				5		40	35000	0.10	0.10	0.006
				5		70	45,000	0.50	0.30	0.006
				6		15	22,000	0.10	0.10	0.006
				6		20	25,000	0.10	0.10	0.006
				6		40	35,000	0.10	0.10	0.006
				6		70	45,000	0.60	0.36	0.006

POWER Jet - Recommended Cutting Parameters

POWER Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
H		Slot Milling		0.3		15	22,000	0.30	0.10	0.004
				0.3		20	25,000	0.30	0.10	0.004
				0.3		40	35,000	0.30	0.15	0.004
				0.3		70	45,000	0.30	0.15	0.004
				0.5		15	22,000	0.50	0.10	0.007
				0.5		20	25,000	0.50	0.10	0.007
				0.5		40	35,000	0.50	0.15	0.007
				0.5		70	45,000	0.50	0.15	0.007
				0.8		15	22,000	0.80	0.12	0.010
				0.8		20	25,000	0.80	0.14	0.010
				0.8		40	35,000	0.80	0.14	0.010
				0.8		70	45,000	0.80	0.15	0.010
				1		15	22,000	1.00	0.12	0.010
				1		20	25,000	1.00	0.12	0.010
				1		40	35,000	1.00	0.15	0.010
				1		70	45,000	1.00	0.15	0.010
				1.5		15	22,000	1.50	0.15	0.020
				1.5		20	25,000	1.50	0.15	0.020
				1.5		40	35,000	1.50	0.15	0.020
				1.5		70	45,000	1.50	0.15	0.020
				2		15	22,000	2.00	0.15	0.020
				2		20	25,000	2.00	0.15	0.020
				2		40	35,000	2.00	0.15	0.020
				2		70	45,000	2.00	0.15	0.020
				2.5		15	22,000	2.50	0.10	0.024
				2.5		20	25,000	2.50	0.10	0.024
				2.5		40	35,000	2.50	0.10	0.024
				2.5		70	45,000	2.50	0.10	0.024
				3		15	22,000	3.00	0.10	0.025
				3		20	25,000	3.00	0.10	0.025
				3		40	35,000	3.00	0.10	0.025
				3		70	45,000	3.00	0.10	0.025
				4		15	22,000	4.00	0.10	0.025
				4		20	25,000	4.00	0.10	0.025
				4		40	35,000	4.00	0.10	0.025
				4		70	45,000	4.00	0.10	0.025
			End-Mill	4.5		15	22,000	4.50	0.10	0.026
				4.5		20	25,000	4.50	0.10	0.026
				4.5		40	35,000	4.50	0.10	0.026
				4.5		70	45,000	4.50	0.10	0.026
				5		15	22,000	5.00	0.10	0.025
				5		20	25,000	5.00	0.10	0.025
				5		40	35,000	5.00	0.10	0.025
				5		70	45,000	5.00	0.10	0.025
				6		15	22,000	6.00	0.10	0.025
				6		20	25,000	6.00	0.10	0.025
				6		40	35,000	6.00	0.10	0.025
				6		70	45,000	6.00	0.10	0.025
		Shoulder Mill		0.5		15	22,000	0.18	0.10	0.009
				0.5		20	25,000	0.20	0.10	0.009
				0.5		40	35,000	0.20	0.10	0.010
				0.5		70	45,000	0.20	0.10	0.010
				1		15	22,000	0.50	0.25	0.010
				1		20	25,000	0.50	0.25	0.010
				1		40	35,000	0.50	0.25	0.010
				1		70	45,000	0.50	0.25	0.010
				2		15	22,000	0.75	0.08	0.009
				2		20	25,000	0.75	0.08	0.009
				2		40	35,000	0.75	0.09	0.009
				2		70	45,000	0.75	0.16	0.009
				3		15	22,000	0.50	0.50	0.010
				3		20	25,000	0.50	0.50	0.010
				3		40	35,000	0.50	0.50	0.010
				3		70	45,000	0.50	0.50	0.010
				4		15	22,000	0.50	0.08	0.010
				4		20	25,000	0.50	0.08	0.010
				4		40	35,000	0.50	0.09	0.010
				4		70	45,000	0.50	0.10	0.010
				5		15	22,000	3.20	0.08	0.009
				5		20	25,000	3.20	0.08	0.009
				5		40	35,000	3.20	0.09	0.009
				5		70	45,000	3.20	0.10	0.010
				6		15	22,000	3.80	0.10	0.015
				6		20	25,000	3.80	0.10	0.017
				6		40	35,000	3.80	0.10	0.018
				6		70	45,000	3.80	0.10	0.020

POWER Jet - Recommended Cutting Parameters

POWER Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
M	SS 316	Drilling	Drill	0.5	180-250 HB	15	22,000	0.50	0.10	0.002
				0.5		20	25,000	0.50	0.10	0.002
				0.5		40	35,000	0.50	0.10	0.002
				0.5		70	45,000	0.50	0.10	0.002
				0.8		15	22,000	0.80	0.10	0.004
				0.8		20	25,000	0.80	0.10	0.004
				0.8		40	35,000	0.80	0.10	0.004
				0.8		70	45,000	0.80	0.10	0.004
				1		15	22,000	1.00	0.10	0.004
				1		20	25,000	1.00	0.10	0.004
				1		40	35,000	1.00	0.10	0.004
				1		70	45,000	1.00	0.10	0.004
				1.5		15	22,000	1.50	0.10	0.006
				1.5		20	25,000	1.50	0.10	0.006
				1.5		40	35,000	1.50	0.10	0.010
				1.5		70	45,000	1.50	0.10	0.010
				2		15	22,000	2.00	0.10	0.010
				2		20	25,000	2.00	0.10	0.010
				2		40	35,000	2.00	0.10	0.010
				2		70	45,000	2.00	0.10	0.010
				2.5		15	22,000	2.50	0.10	0.010
				2.5		20	25,000	2.50	0.10	0.010
				2.5		40	35,000	2.50	0.10	0.010
				2.5		70	45,000	2.50	0.10	0.010
				3		15	22,000	3.00	0.10	0.010
				3		20	25,000	3.00	0.10	0.010
				3		40	35,000	3.00	0.10	0.010
				3		70	45,000	3.00	0.10	0.010
				3.5		15	22,000	3.50	0.10	0.010
				3.5		20	25,000	3.50	0.10	0.010
				3.5		40	35,000	3.50	0.10	0.010
				3.5		70	45,000	3.50	0.10	0.010
		Profile Milling	Ball Nose	0.5		15	22,000	0.10	0.10	0.006
				0.5		20	25,000	0.10	0.10	0.006
				0.5		40	35,000	0.10	0.10	0.006
				0.5		70	45,000	0.10	0.10	0.006
				1		15	22,000	0.10	0.10	0.006
				1		20	25,000	0.10	0.10	0.006
				1		40	35,000	0.10	0.10	0.006
				1		70	45,000	0.10	0.10	0.006
				1.5		15	22,000	0.10	0.10	0.006
				1.5		20	25,000	0.10	0.10	0.006
				1.5		40	35,000	0.10	0.10	0.006
				1.5		70	45,000	0.10	0.10	0.006
				2		15	22,000	0.10	0.10	0.006
				2		20	25,000	0.10	0.10	0.006
				2		40	35,000	0.10	0.10	0.006
				2		70	45,000	0.10	0.10	0.006
				2.5		15	22,000	0.10	0.10	0.006
				2.5		20	25,000	0.10	0.10	0.006
				2.5		40	35,000	0.10	0.10	0.006
				2.5		70	45,000	0.10	0.10	0.006
				3		15	22,000	0.10	0.10	0.006
				3		20	25,000	0.10	0.10	0.006
				3		40	35,000	0.10	0.10	0.006
				3		70	45,000	0.10	0.10	0.006
				4		15	22,000	0.10	0.10	0.006
				4		20	25,000	0.10	0.10	0.006
				4		40	35,000	0.10	0.10	0.006
				4		70	45,000	0.10	0.10	0.006
				5		15	22,000	0.10	0.10	0.006
				5		20	25,000	0.10	0.10	0.006
				5		40	35,000	0.10	0.10	0.006
				5		70	45,000	0.10	0.10	0.006
				6		15	22,000	0.10	0.10	0.006
				6		20	25,000	0.10	0.10	0.006
				6		40	35,000	0.10	0.10	0.006
				6		70	45,000	0.10	0.10	0.006

POWER Jet - Recommended Cutting Parameters

POWER Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
M		Slot Milling		0.5	180-250 HB	15	22,000	0.50	0.10	0.008
				0.5		20	25,000	0.50	0.10	0.008
				0.5		40	35,000	0.50	0.15	0.009
				0.5		70	45,000	0.50	0.15	0.009
				0.8		15	22,000	0.80	0.12	0.010
				0.8		20	25,000	0.80	0.14	0.010
				0.8		40	35,000	0.80	0.14	0.010
				0.8		70	45,000	0.80	0.15	0.009
				1		15	22,000	1.00	0.12	0.010
				1		20	25,000	1.00	0.12	0.010
				1		40	35,000	1.00	0.15	0.010
				1		70	45,000	1.00	0.15	0.009
				1.5		15	22,000	1.50	0.15	0.012
				1.5		20	25,000	1.50	0.15	0.017
				1.5		40	35,000	1.50	0.15	0.018
				1.5		70	45,000	1.50	0.15	0.020
				2		15	22,000	2.00	0.08	0.009
				2		20	25,000	2.00	0.08	0.009
				2		40	35,000	2.00	0.09	0.009
				2		70	45,000	2.00	0.10	0.009
				2.5		15	22,000	2.50	0.10	0.015
				2.5		20	25,000	2.50	0.10	0.015
				2.5		40	35,000	2.50	0.15	0.016
				2.5		70	45,000	2.50	0.15	0.016
				3		15	22,000	3.00	0.12	0.010
				3		20	25,000	3.00	0.12	0.010
				3		40	35,000	3.00	0.12	0.010
				3		70	45,000	3.00	0.12	0.010
				4		15	22,000	4.00	0.12	0.010
				4		20	25,000	4.00	0.12	0.010
				4		40	35,000	4.00	0.12	0.010
				4		70	45,000	4.00	0.12	0.010
		Shoulder Mill	End-Mill	4.5		15	22,000	4.50	0.12	0.010
				4.5		20	25,000	4.50	0.12	0.010
				4.5		40	35,000	4.50	0.12	0.010
				4.5		70	45,000	4.50	0.12	0.010
				5		15	22,000	5.00	0.10	0.009
				5		20	25,000	5.00	0.10	0.009
				5		40	35,000	5.00	0.10	0.009
				5		70	45,000	5.00	0.10	0.009
				6		15	22,000	6.00	0.08	0.009
				6		20	25,000	6.00	0.08	0.009
				6		40	35,000	6.00	0.08	0.009
				6		70	45,000	6.00	0.08	0.009
				1		15	22,000	0.50	0.20	0.014
				1		20	25,000	0.50	0.20	0.014
				1		40	35,000	0.50	0.50	0.014
				1		70	45,000	0.50	0.50	0.014
				2		15	22,000	0.50	0.08	0.009
				2		20	25,000	0.50	0.08	0.009
				2		40	35,000	0.50	0.09	0.009
				2		70	45,000	0.50	0.08	0.012
				3		15	22,000	0.50	0.08	0.010
				3		20	25,000	0.50	0.08	0.017
				3		40	35,000	0.50	0.08	0.018
				3		70	45,000	0.50	0.08	0.018
				4		15	22,000	0.50	0.08	0.015
				4		20	25,000	0.50	0.08	0.015
				4		40	35,000	0.50	0.09	0.015
				4		70	45,000	0.50	0.09	0.015
				5		15	22,000	0.50	0.08	0.015
				5		20	25,000	0.50	0.08	0.015
				5		40	35,000	0.50	0.09	0.015
				5		70	45,000	0.50	0.09	0.015
				6		15	22,000	0.50	0.15	0.015
				6		20	25,000	0.50	0.15	0.015
				6		40	35,000	0.50	0.15	0.015
				6		70	45,000	0.50	0.15	0.015

ULTRA Jet Recommended Cutting Parameters

ULTRA Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
N	Al-Si 9%	Drilling	Drill	0.3	80-160 HB	20	33000	0.30	0.025	0.002
				0.3		30	44000	0.30	0.027	0.002
				0.3		40	55000	0.30	0.027	0.002
				0.5		20	33000	0.50	0.03	0.002
				0.5		30	44000	0.50	0.03	0.002
				0.5		40	55000	0.50	0.03	0.002
				0.8		20	33000	0.80	0.05	0.002
				0.8		30	44000	0.80	0.05	0.002
				0.8		40	55000	0.80	0.05	0.002
				1		20	33000	1.00	0.07	0.003
				1		30	44000	1.00	0.07	0.003
				1		40	55000	1.00	0.07	0.003
				1.5		20	33000	1.50	0.08	0.004
				1.5		30	44000	1.50	0.08	0.004
				1.5		40	55000	1.50	0.08	0.004
				2		20	33000	2.00	0.10	0.004
				2		30	44000	2.00	0.10	0.004
				2		40	55000	2.00	0.10	0.004
				3		20	33000	3.00	0.10	0.004
				3		30	44000	3.00	0.10	0.004
				3		40	55000	3.00	0.10	0.004
				4		20	33000	4.00	0.12	0.005
				4		30	44000	4.00	0.12	0.005
				4		40	55000	4.00	0.12	0.005
				5		20	33000	5.00	0.13	0.005
				5		30	44000	5.00	0.13	0.005
				5		40	55000	5.00	0.13	0.005
				6		20	33000	6.00	0.15	0.005
				6		30	44000	6.00	0.15	0.006
				6		40	55000	6.00	0.15	0.006
		Profile Milling	Ball Nose	0.5		20	33000	0.06	0.05	0.008
				0.5		30	44000	0.06	0.05	0.008
				0.5		40	55000	0.07	0.10	0.008
				0.8		20	33000	0.06	0.05	0.008
				0.8		30	44000	0.06	0.05	0.008
				0.8		40	55000	0.07	0.13	0.008
				1		20	33000	0.10	0.08	0.004
				1		30	44000	0.10	0.09	0.004
				1		40	55000	0.11	0.15	0.004
				1.5		20	33000	0.12	0.09	0.006
				1.5		30	44000	0.13	0.09	0.006
				1.5		40	55000	0.15	0.10	0.006
				2		20	33000	0.13	0.05	0.008
				2		30	44000	0.13	0.05	0.008
				2		40	55000	0.17	0.13	0.008
				2.5		20	33000	0.15	0.10	0.008
				2.5		30	44000	0.16	0.10	0.008
				2.5		40	55000	0.25	0.13	0.008
				3		20	33000	0.22	0.08	0.008
				3		30	44000	0.25	0.08	0.008
				3		40	55000	0.25	0.15	0.008
				4		20	33000	0.20	0.08	0.008
				4		30	44000	0.25	0.09	0.008
				4		40	55000	0.27	0.15	0.008
				5		20	33000	0.25	0.08	0.008
				5		30	44000	0.26	0.08	0.008
				5		40	55000	0.28	0.15	0.008
				6		20	33000	0.23	0.08	0.008
				6		30	44000	0.25	0.09	0.008
				6		40	55000	0.25	0.15	0.008

ULTRA Jet Recommended Cutting Parameters

ULTRA Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)	
N	Al-Si 9%	Slot Milling	End-Mill	0.5	80-160 HB	20	33000	0.50	0.05	0.007	
				0.5		30	44000	0.50	0.05	0.007	
				0.5		40	55000	0.50	0.05	0.007	
				0.8		20	33000	0.80	0.08	0.008	
				0.8		30	44000	0.80	0.08	0.008	
				0.8		40	55000	0.80	0.08	0.008	
				1		20	33000	1.00	0.10	0.018	
				1		30	44000	1.00	0.10	0.018	
				1		40	55000	1.00	0.10	0.018	
				1.5		20	33000	1.50	0.15	0.020	
				1.5		30	44000	1.50	0.15	0.020	
				1.5		40	55000	1.50	0.15	0.020	
				2		20	33000	2.00	0.20	0.022	
				2		30	44000	2.00	0.20	0.022	
				2		40	55000	2.00	0.20	0.022	
				2.5		20	33000	2.50	0.25	0.025	
				2.5		30	44000	2.50	0.25	0.025	
				2.5		40	55000	2.50	0.25	0.025	
				3		20	33000	3.00	0.30	0.025	
				3		30	44000	3.00	0.30	0.025	
				3		40	55000	3.00	0.30	0.025	
				3.5		20	33000	3.50	0.25	0.025	
				3.5		30	44000	3.50	0.25	0.025	
				3.5		40	55000	3.50	0.25	0.025	
				4		20	33000	4.00	0.28	0.025	
				4		30	44000	4.00	0.28	0.025	
				4		40	55000	4.00	0.28	0.025	
				4.5		20	33000	4.50	0.32	0.025	
				4.5		30	44000	4.50	0.32	0.025	
				4.5		40	55000	4.50	0.32	0.025	
				5		20	33000	5.00	0.35	0.022	
				5		30	44000	5.00	0.35	0.022	
				5		40	55000	5.00	0.35	0.022	
				5.5		20	33000	5.50	0.36	0.022	
				5.5		30	44000	5.50	0.36	0.022	
				5		40	55000	5.50	0.36	0.022	
				6		20	33000	6.00	0.36	0.022	
				6		30	44000	6.00	0.36	0.022	
				6		40	55000	6.00	0.36	0.022	
		Shoulder Mill		1		20	33000	0.30	0.10	0.015	
				1		30	44000	0.30	0.15	0.017	
				1		40	55000	0.30	0.15	0.017	
				2		20	33000	0.60	0.10	0.015	
				2		30	44000	0.60	0.10	0.015	
				2		40	55000	0.60	0.10	0.018	
				3		20	33000	0.90	0.10	0.020	
				3		30	44000	0.90	0.10	0.020	
				3		40	55000	0.90	0.10	0.025	
				4		20	33000	1.20	0.10	0.025	
				4		30	44000	1.20	0.10	0.025	
				4		40	55000	1.20	0.10	0.025	
				5		20	33000	1.50	0.10	0.025	
				5		30	44000	1.50	0.10	0.025	
				5		40	55000	1.50	0.10	0.025	
				6		20	33000	1.80	0.10	0.025	
				6		30	44000	1.80	0.10	0.025	
				6		40	55000	1.80	0.10	0.025	

ULTRA Jet Recommended Cutting Parameters

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
H	SAE 1.2316	Drilling	Drill	0.3	35 HRC	20	33000	0.30	0.07	0.002
				0.3		30	44000	0.30	0.07	0.002
				0.3		40	55000	0.30	0.07	0.002
				0.5		20	33000	0.50	0.10	0.002
				0.5		30	44000	0.50	0.10	0.002
				0.5		40	55000	0.50	0.10	0.002
				0.8		20	33000	0.80	0.10	0.002
				0.8		30	44000	0.80	0.10	0.002
				0.8		40	55000	0.80	0.10	0.002
				1		20	33000	1.00	0.10	0.003
				1		30	44000	1.00	0.10	0.003
				1		40	55000	1.00	0.10	0.003
				1.5		20	33000	1.50	0.10	0.004
				1.5		30	44000	1.50	0.10	0.004
				1.5		40	55000	1.50	0.10	0.004
				2		20	33000	2.00	0.10	0.004
				2		30	44000	2.00	0.10	0.004
				2		40	55000	2.00	0.10	0.004
				2.5		20	33000	2.50	0.10	0.004
				2.5		30	44000	2.50	0.10	0.004
				2.5		40	55000	2.50	0.10	0.004
				3		20	33000	3.00	0.10	0.005
				3		30	44000	3.00	0.10	0.005
				3		40	55000	3.00	0.10	0.005
				3.5		20	33000	3.50	0.10	0.005
				3.5		30	44000	3.50	0.10	0.005
				3.5		40	55000	3.50	0.10	0.005
		Profile Milling	Ball Nose	0.3		20	33000	0.03	0.02	0.010
				0.3		30	44000	0.03	0.02	0.010
				0.3		40	55000	0.03	0.02	0.010
				0.5		20	33000	0.05	0.03	0.012
				0.5		30	44000	0.05	0.03	0.012
				0.5		40	55000	0.05	0.03	0.012
				1		20	33000	0.10	0.06	0.012
				1		30	44000	0.10	0.06	0.012
				1		40	55000	0.10	0.06	0.012
				1.5		20	33000	0.15	0.09	0.012
				1.5		30	44000	0.15	0.09	0.012
				1.5		40	55000	0.15	0.09	0.012
				2		20	33000	0.20	0.12	0.012
				2		30	44000	0.20	0.12	0.012
				2		40	55000	0.20	0.12	0.012
				2.5		20	33000	0.25	0.15	0.012
				2.5		30	44000	0.25	0.15	0.012
				2.5		40	55000	0.25	0.15	0.012
				3		20	33000	0.30	0.15	0.012
				3		30	44000	0.30	0.15	0.012
				3		40	55000	0.30	0.15	0.012
				4		20	33000	0.40	0.10	0.012
				4		30	44000	0.40	0.10	0.012
				4		40	55000	0.40	0.10	0.012
				5		20	33000	0.50	0.10	0.012
				5		30	44000	0.50	0.10	0.012
				5		40	55000	0.50	0.10	0.012
				6		20	33000	0.60	0.10	0.006
				6		30	44000	0.60	0.10	0.006
				6		40	55000	0.60	0.10	0.006

ULTRA Jet Recommended Cutting Parameters

ULTRA Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)		
H	SAE 1.231	Slot Milling	End-Mill	0.3	35 HRC	20	33000	0.30	0.10	0.006		
				0.3		30	44000	0.30	0.10	0.006		
				0.3		40	55000	0.30	0.15	0.006		
				0.5		20	33000	0.50	0.10	0.007		
				0.5		30	44000	0.50	0.10	0.007		
				0.5		40	55000	0.50	0.15	0.007		
				0.8		20	33000	0.80	0.12	0.010		
				0.8		30	44000	0.80	0.14	0.010		
				0.8		40	55000	0.80	0.14	0.010		
				1		20	33000	1.00	0.12	0.010		
				1		30	44000	1.00	0.12	0.010		
				1		40	55000	1.00	0.15	0.010		
				1.5		20	33000	1.50	0.15	0.014		
				1.5		30	44000	1.50	0.15	0.014		
				1.5		40	55000	1.50	0.15	0.014		
				2		20	33000	2.00	0.08	0.009		
				2		30	44000	2.00	0.08	0.009		
				2		40	55000	2.00	0.09	0.009		
				2.5		20	33000	2.50	0.10	0.010		
				2.5		30	44000	2.50	0.10	0.013		
				2.5		40	55000	2.50	0.15	0.013		
				3		20	33000	3.00	0.12	0.010		
				3		30	44000	3.00	0.14	0.010		
				3		40	55000	3.00	0.14	0.010		
				4		20	33000	4.00	0.12	0.010		
				4		30	44000	4.00	0.12	0.010		
				4		40	55000	4.00	0.15	0.010		
				4.5		20	33000	4.50	0.10	0.010		
				4.5		30	44000	4.50	0.12	0.010		
				4.5		40	55000	4.50	0.15	0.010		
				5		20	33000	5.00	0.10	0.012		
				5		30	44000	5.00	0.12	0.017		
				5		40	55000	5.00	0.15	0.018		
				6		20	33000	6.00	0.08	0.009		
				6		30	44000	6.00	0.08	0.009		
				6		40	55000	6.00	0.09	0.009		
				Shoulder Mill		0.5	20	33000	0.50	0.20	0.009	
						0.5	30	44000	0.50	0.30	0.009	
						0.5	40	55000	0.50	0.30	0.010	
						1	20	33000	1.00	0.15	0.015	
						1	30	44000	1.00	0.50	0.017	
						1	40	55000	1.00	0.50	0.018	
						2	20	33000	2.00	0.08	0.009	
						2	30	44000	2.00	0.08	0.009	
						2	40	55000	2.00	0.09	0.009	
						3	20	33000	3.00	0.50	0.015	
						3	30	44000	3.00	0.50	0.017	
						3	40	55000	3.00	0.50	0.018	
		4				20	33000	4.00	0.08	0.009		
		4				30	44000	4.00	0.08	0.009		
		4				40	55000	4.00	0.09	0.009		
		5				20	33000	5.00	0.08	0.009		
		5				30	44000	5.00	0.08	0.009		
		5				40	55000	5.00	0.09	0.009		
		6				20	33000	6.00	0.10	0.015		
		6				30	44000	6.00	0.10	0.017		
		6				40	55000	6.00	0.10	0.018		

ULTRA Jet Recommended Cutting Parameters

ULTRA Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
M	SS 316	Drilling	Drill	0.5	180-250 HB	20	33000	0.50	0.10	0.002
				0.5		30	44000	0.50	0.10	0.002
				0.5		40	55000	0.50	0.10	0.002
				0.8		20	33000	0.80	0.10	0.002
				0.8		30	44000	0.80	0.10	0.002
				0.8		40	55000	0.80	0.10	0.002
				1		20	33000	1.00	0.10	0.002
				1		30	44000	1.00	0.10	0.002
				1		40	55000	1.00	0.10	0.002
				1.5		20	33000	1.50	0.10	0.003
				1.5		30	44000	1.50	0.10	0.003
				1.5		40	55000	1.50	0.10	0.003
				2		20	33000	2.00	0.10	0.004
				2		30	44000	2.00	0.10	0.004
				2		40	55000	2.00	0.10	0.004
				2.5		20	33000	2.50	0.10	0.004
				2.5		30	44000	2.50	0.10	0.004
				2.5		40	55000	2.50	0.10	0.004
				3		20	33000	3.00	0.10	0.004
				3		30	44000	3.00	0.10	0.004
				3		40	55000	3.00	0.10	0.004
				3.5		20	33000	3.50	0.10	0.005
				3.5		30	44000	3.50	0.10	0.005
				3.5		40	55000	3.50	0.10	0.005
		Profile Milling	Ball Nose	0.5		20	33000	0.50	0.10	0.006
				0.5		30	44000	0.50	0.10	0.006
				0.5		40	55000	0.50	0.10	0.006
				1		20	33000	1.00	0.10	0.006
				1		30	44000	1.00	0.10	0.006
				1		40	55000	1.00	0.10	0.006
				1.5		20	33000	1.50	0.10	0.006
				1.5		30	44000	1.50	0.10	0.006
				1.5		40	55000	1.50	0.10	0.006
				2		20	33000	2.00	0.10	0.006
				2		30	44000	2.00	0.10	0.006
				2		40	55000	2.00	0.10	0.006
				2.5		20	33000	2.50	0.10	0.006
				2.5		30	44000	2.50	0.10	0.006
				2.5		40	55000	2.50	0.10	0.006
				3		20	33000	3.00	0.10	0.006
				3		30	44000	3.00	0.10	0.006
				3		40	55000	3.00	0.10	0.006
				4		20	33000	4.00	0.10	0.006
				4		30	44000	4.00	0.10	0.006
				4		40	55000	4.00	0.10	0.006
				5		20	33000	5.00	0.10	0.006
				5		30	44000	5.00	0.10	0.006
				5		40	55000	5.00	0.10	0.006
				6		20	33000	6.00	0.10	0.006
				6		30	44000	6.00	0.10	0.006
				6		40	55000	6.00	0.10	0.006

ULTRA Jet Recommended Cutting Parameters

ULTRA Jet

	Material	Process	Type	Cutting Tool dia.	Hardness	Pressure	Speed (n)	Ae (mm)	Ap (mm)	Fz (mm)
M		Slot Milling		0.5	180-250 HB	20	33000	0.50	0.10	0.008
				0.5		30	44000	0.50	0.10	0.008
				0.5		40	55000	0.50	0.10	0.009
				0.8		20	33000	0.80	0.10	0.010
				0.8		30	44000	0.80	0.10	0.010
				0.8		40	55000	0.80	0.10	0.010
				1		20	33000	1.00	0.12	0.010
				1		30	44000	1.00	0.12	0.010
				1		40	55000	1.00	0.12	0.010
				1.5		20	33000	1.50	0.15	0.012
				1.5		30	44000	1.50	0.15	0.017
				1.5		40	55000	1.50	0.15	0.018
				2		20	33000	2.00	0.15	0.009
				2		30	44000	2.00	0.15	0.009
				2		40	55000	2.00	0.15	0.009
				2.5		20	33000	2.50	0.10	0.015
				2.5		30	44000	2.50	0.10	0.015
				2.5		40	55000	2.50	0.10	0.016
				3		20	33000	3.00	0.10	0.010
				3		30	44000	3.00	0.10	0.010
				3		40	55000	3.00	0.10	0.010
				4		20	33000	4.00	0.10	0.010
				4		30	44000	4.00	0.10	0.010
				4		40	55000	4.00	0.10	0.010
		Shoulder Mill	End-Mill	4.5		20	33000	4.50	0.10	0.010
				4.5		30	44000	4.50	0.10	0.010
				4.5		40	55000	4.50	0.10	0.010
				5		20	33000	5.00	0.10	0.011
				5		30	44000	5.00	0.10	0.017
				5		40	55000	5.00	0.10	0.018
				6		20	33000	6.00	0.10	0.018
				6		30	44000	6.00	0.10	0.018
				6		40	55000	6.00	0.10	0.018
				1		20	33000	0.50	0.10	0.014
				1		30	44000	0.50	0.10	0.014
				1		40	55000	0.50	0.10	0.014
				2		20	33000	1.00	0.10	0.015
				2		30	44000	1.00	0.10	0.015
				2		40	55000	1.00	0.10	0.015
				3		20	33000	1.00	0.10	0.015
				3		30	44000	1.00	0.10	0.015
				3		40	55000	1.00	0.10	0.015
				4		20	33000	0.75	0.10	0.009
				4		30	44000	0.75	0.10	0.009
				4		40	55000	0.75	0.10	0.009
				5		20	33000	4.00	0.10	0.009
				5		30	44000	4.00	0.10	0.009
				5		40	55000	4.00	0.10	0.009
				6		20	33000	0.50	0.10	0.013
				6		30	44000	0.50	0.10	0.017
				6		40	55000	0.50	0.10	0.018

Cartridge Replacement

To replace the cartridge there are two steps, first remove the existing cartridge and then install the new cartridge:

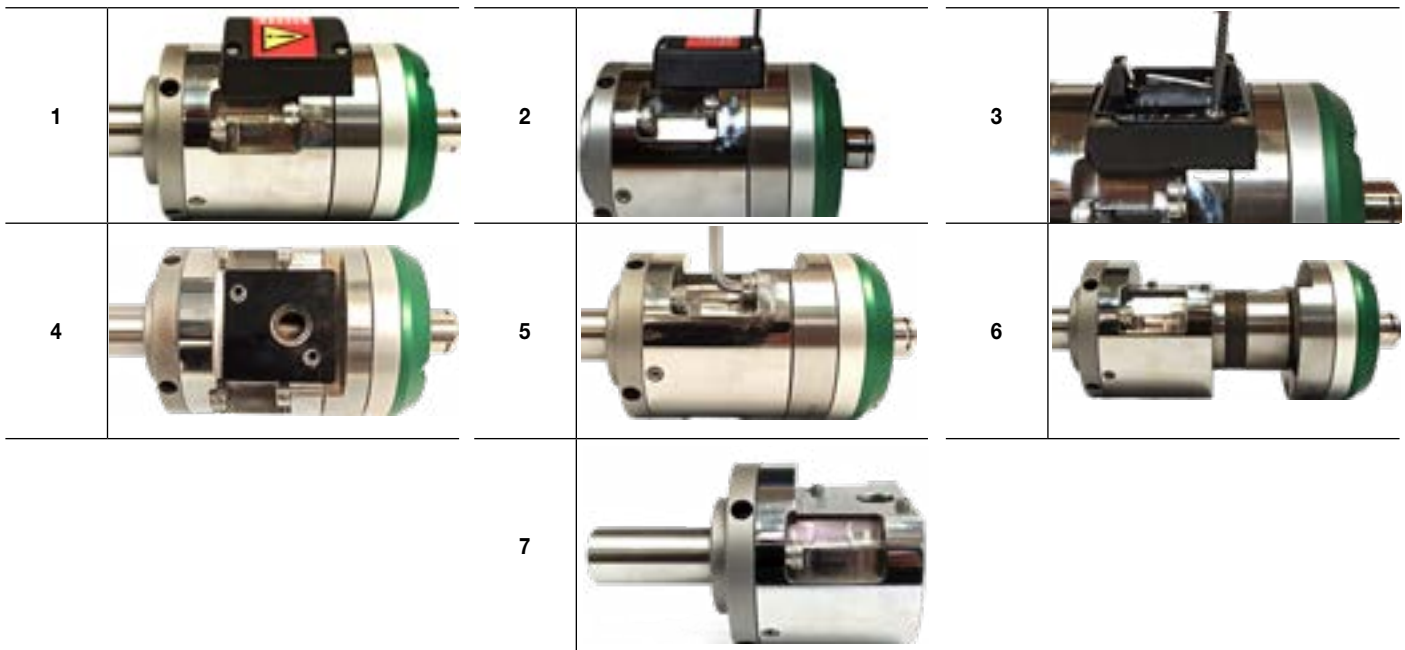
REMOVE CARTRIDGE

- Remove the sensor cover and sensor base (image 2, 3)
- Remove the bolts that hold the cartridge in place and remove the cartridge (image 6, 7)

INSTALL CARTRIDGE

- Insert the cartridge
- Align the cartridge, while securing the bolts
- Assemble the sensor base and sensor cover

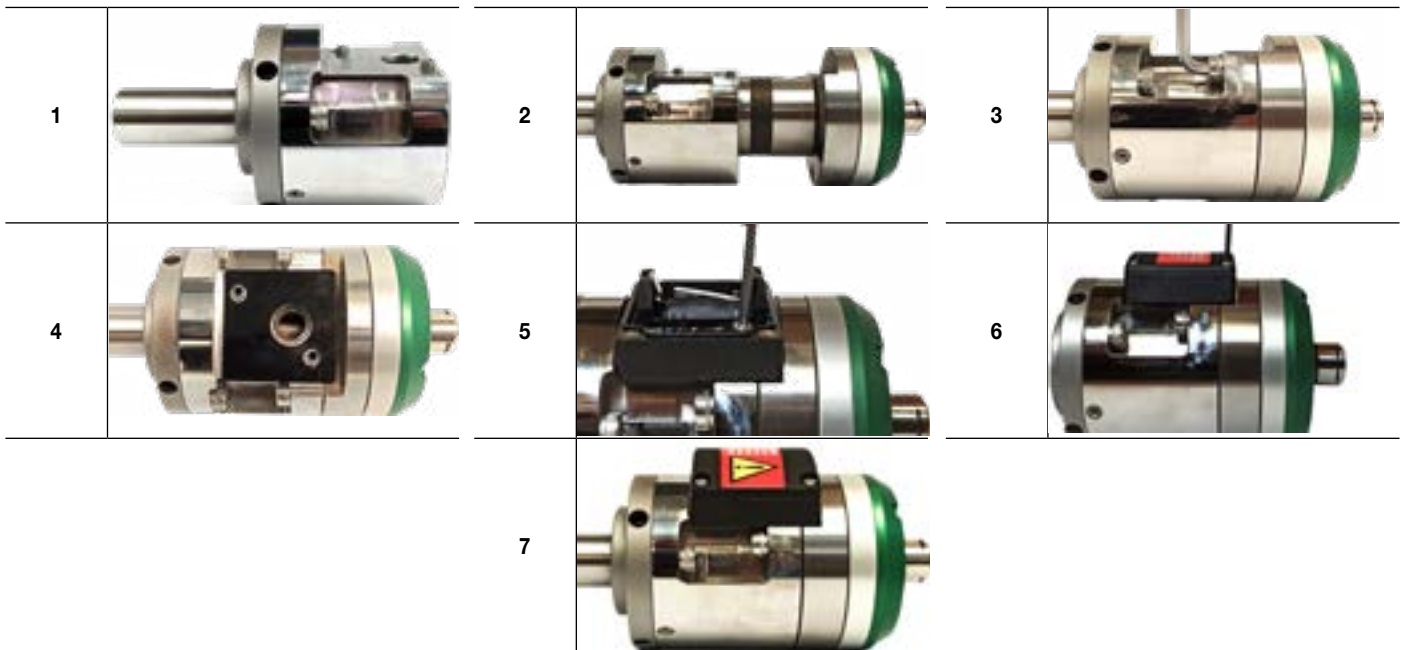
Cartridge Removal



Cartridge Assembly

INSTALL NEW CARTRIDGE

- Insert the cartridge
- Align the cartridge, while securing the bolts
- Assemble the sensor base and sensor cover



90 Degrees Jet Spindle Setup

MACHINE SPINDLE

- Ensure machine spindle is locked.

HOLDER

- Use a hydraulic holder for quickest and most accurate setup;
OR
- Use an ER sealed collet 20.00 mm

Clamping and Coolant



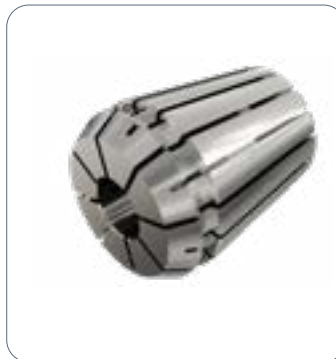
When machining at high speeds you must have a high precision spindle that provides the speed, accuracy and power using high-precision nut & collet to optimize dynamic balancing with pinpointed coolant to the cutting edge. **Assures a simple tool change with no setup time and a low runout.**

Coolant outlets from the front turbine cover point high pressure coolant directly towards the cutting edge.

Nut & Collet

NUT ER 11 GHS
(2 microns runout)

AAA Ultra Precision ER 11 Collet
(1 micron runout)
(not included)



Tools

Shaft Lock Wrench

Wrench for NUT ER11 GHS



Catalog

The Jet Spindle cartridge can be replaced onsite or by a regional certified service center.

Prices

Your price list will be provided upon request.

Availability

Holder

ST20
ST20 90 Degrees
ER32
BT30 / 40
HSK A40
HSK A63
CAPTO C5 / C6
SK30 / 40
CAT40

Availability

In stock
In stock
In stock
In Stock
Q4 2025
In stock
In stock
Q4 2025
In stock

V2 Status

Out of stock
N/A
Out of stock
In stock
In stock
In stock
Only C5 ULTRA Jet in stock
Only SK40 HPC in stock
In stock

Commercial

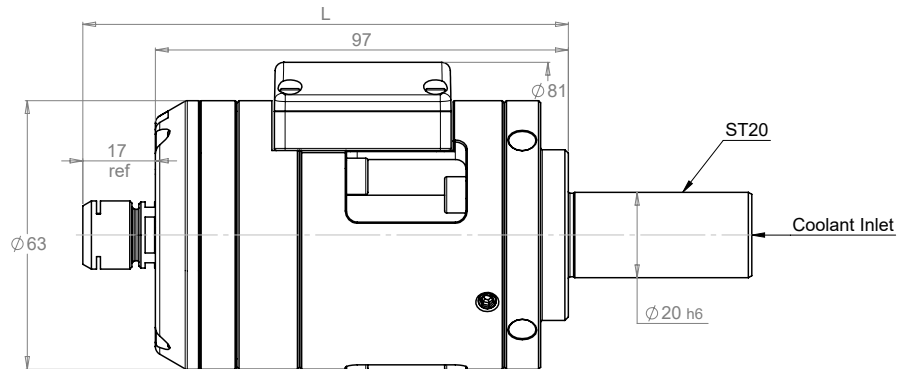
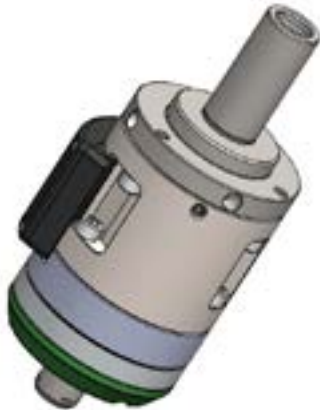
Contact one of [Colibri Partners](#) for details.

Each package contains:

NUT ER11 GHS x1
NUT ER11 GHS Wrench x1
Shaft Lock Wrench x1

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 ST20	37-085-099	ST20	113.80	4.0	1.7

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

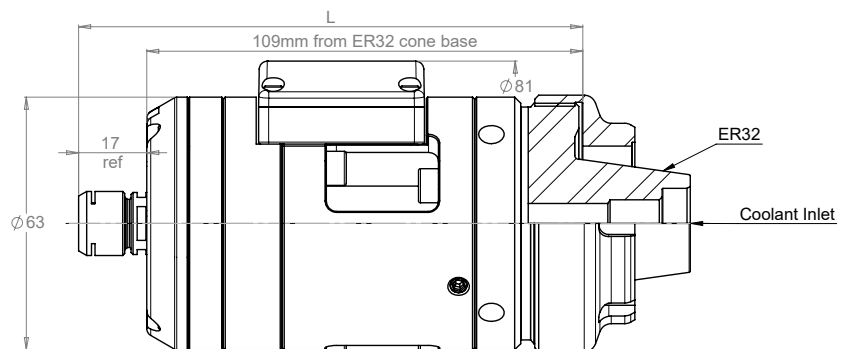
[ST20 Primary View 2D – DXF](#)

[ST20 Model 3D Detail – STP](#)

[ST20 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 ER32	37-085-599	ER32	125.80	4.0	2.2

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

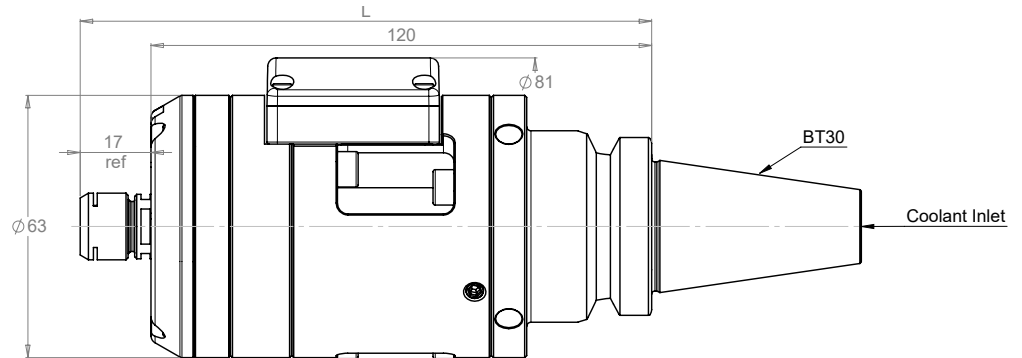
[ER32 Primary View 2D – DXF](#)

[ER32 Model 3D Detail – STP](#)

[ER32 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 BT30	37-085-399	BT30	137.30	4.0	2.0

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

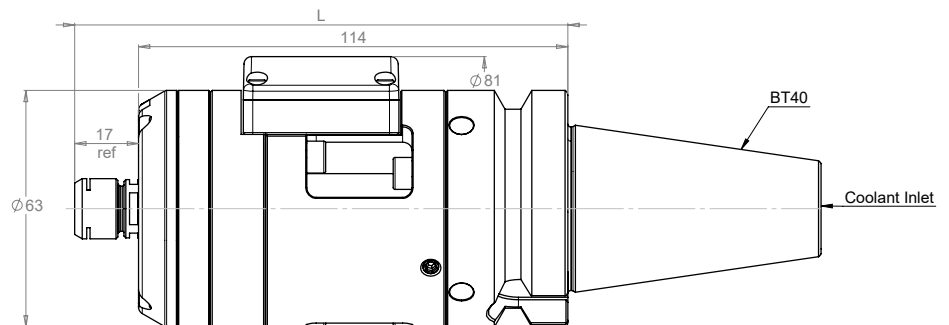
[BT30 Primary View 2D – DXF](#)

[BT30 Model 3D Detail – STP](#)

[BT30 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 BT40	37-085-799	BT40	131.30	4.0	2.5

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

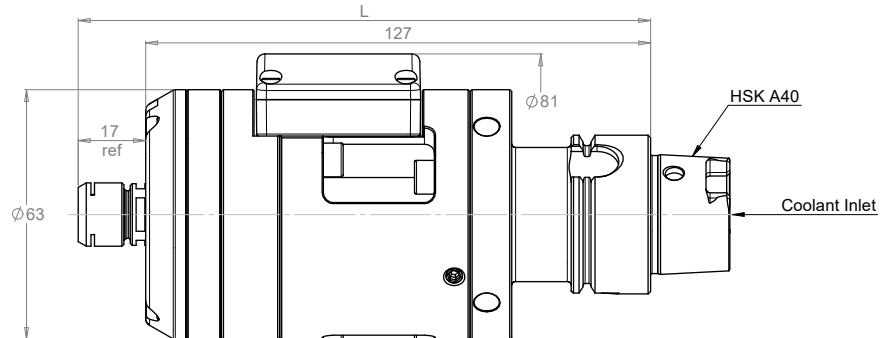
[BT40 Primary View 2D – DXF](#)

[BT40 Model 3D Detail – STP](#)

[BT40 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 HSK A40	37-085-249	HSK A40	144.30	4.0	1.9

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

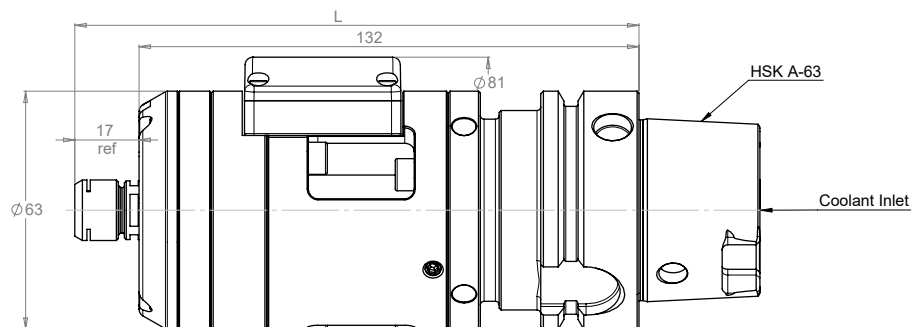
[HSK A40 Primary View 2D – DXF](#)

[HSK A40 Model 3D Detail – STP](#)

[HSK A40 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 HSK A63	37-085-299	HSK A63	149.30	4.0	2.4

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

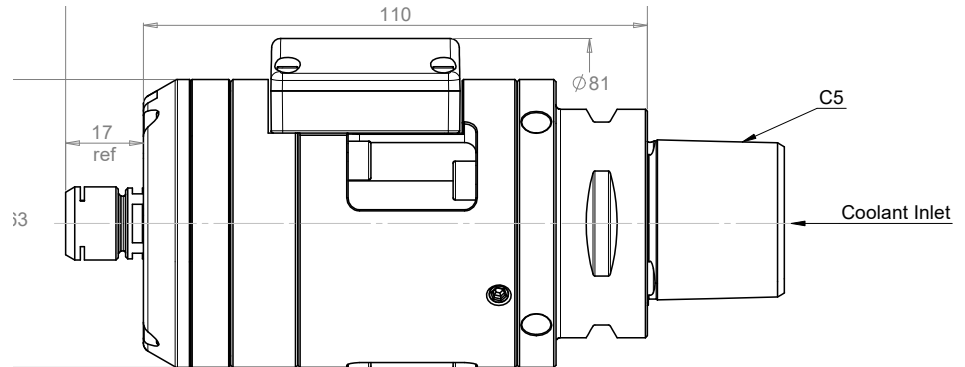
[HSK A63 Primary View 2D – DXF](#)

[HSK A63 Model 3D Detail – STP](#)

[HSK A63 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 CAPTO C5	37-085-499	C5	127.30	4.0	2.0

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog//>

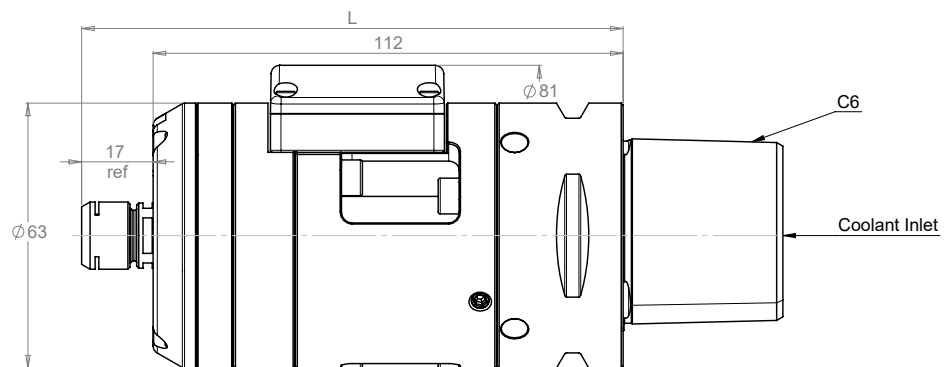
[C5 Primary View 2D – DXF](#)

[C5 Model 3D Detail – STP](#)

[C5 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 CAPTO C6	37-085-199	C6	128.80	4.0	2.3

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog//>

[C6 Primary View 2D – DXF](#)

[C6 Model 3D Detail – STP](#)

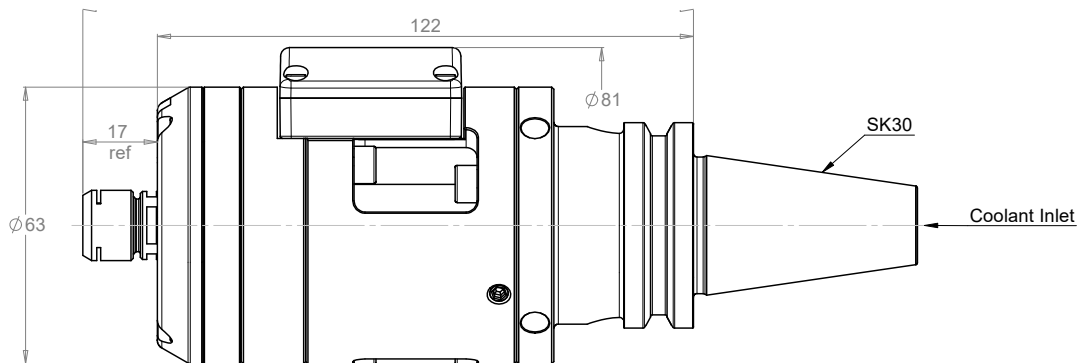
[C6 Model 3D Light – STP](#)

Catalog

ULTRA Jet

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 SK30	37-085-839	SK30	139.10	4.0	2.1

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog//>

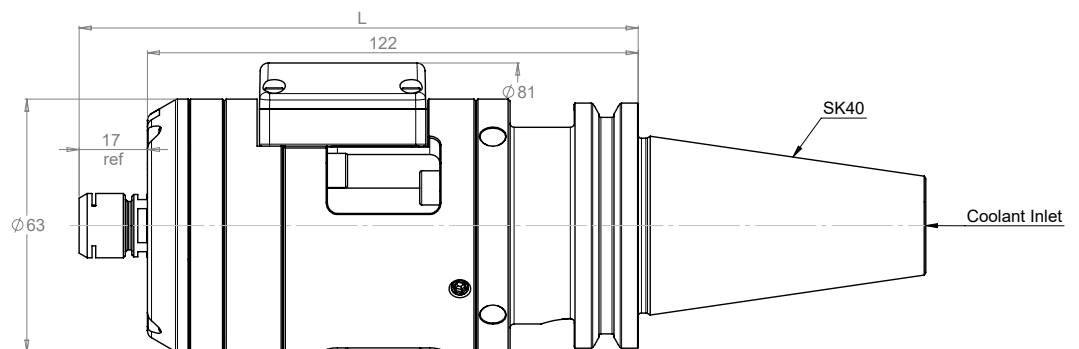
[SK30 Primary View 2D – DXF](#)

[SK30 Model 3D Detail – STP](#)

[SK30 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 SK40	37-085-849	SK40	139.20	4.0	2.6

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog//>

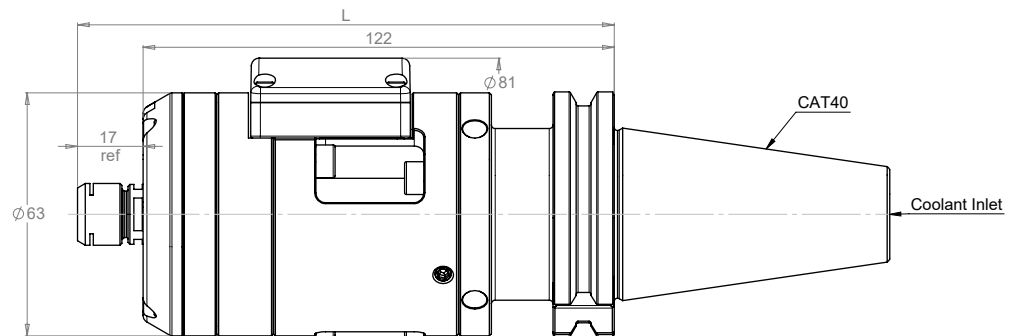
[SK40 Primary View 2D – DXF](#)

[SK40 Model 3D Detail – STP](#)

[SK40 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TJS ULTRA Jet4 CAT40	37-085-699	CAT40	139.20	4.0	2.5

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[CAT40 Primary View 2D – DXF](#)

[CAT40 Model 3D Detail – STP](#)

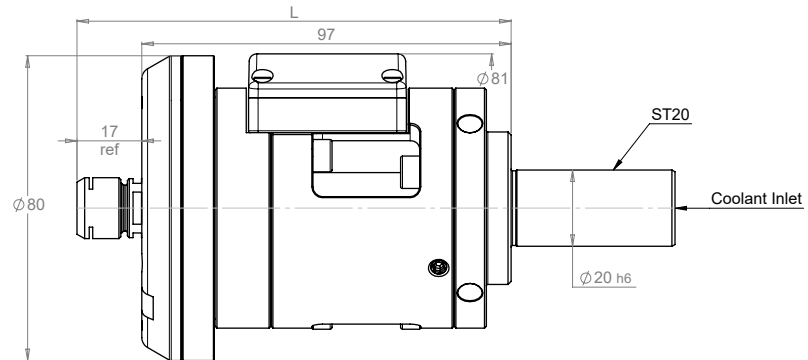
[CAT40 Model 3D Light – STP](#)

Catalog

POWER Jet

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A63	HSK A40	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet ST20	47-085-099	ST20	113.90	6.0	1.8

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

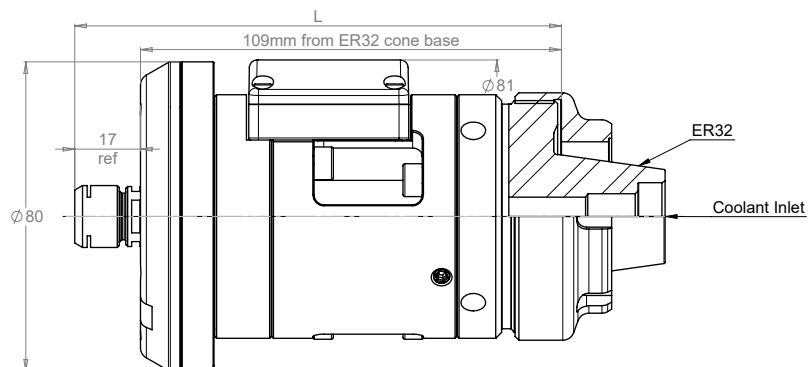
[ST20 Primary View 2D – DXF](#)

[ST20 Model 3D Detail – STP](#)

[ST20 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A63	HSK A40	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet ER32	47-085-599	ER32	125.90	6.0	2.3

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[ER32 Primary View 2D – DXF](#)

[ER32 Model 3D Detail – STP](#)

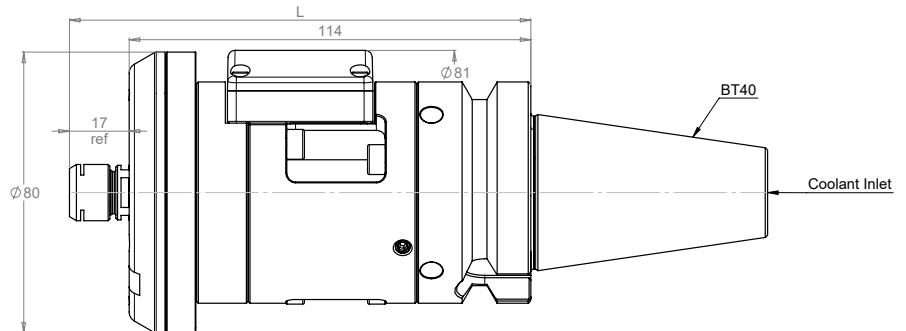
[ER32 Model 3D Light – STP](#)

Catalog

POWER Jet

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A63	HSK A40	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet BT40	47-085-399	BT30	137.40	6.0	2.1

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

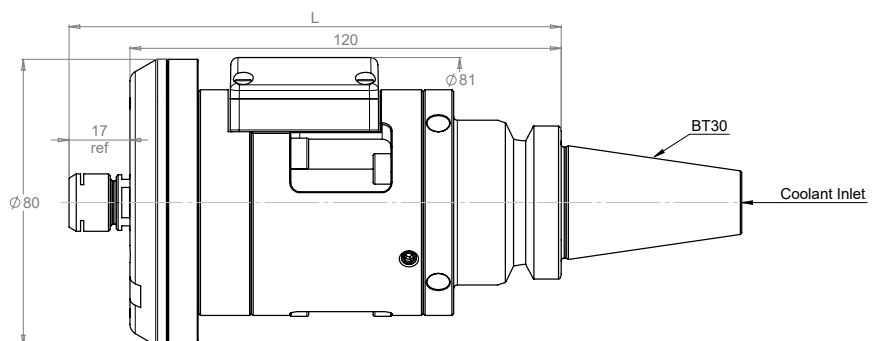
[BT30 Primary View 2D – DXF](#)

[BT30 Model 3D Detail – STP](#)

[BT30 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A63	HSK A40	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet BT40	47-085-799	BT40	131.40	6.0	2.6

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[BT40 Primary View 2D – DXF](#)

[BT40 Model 3D Detail – STP](#)

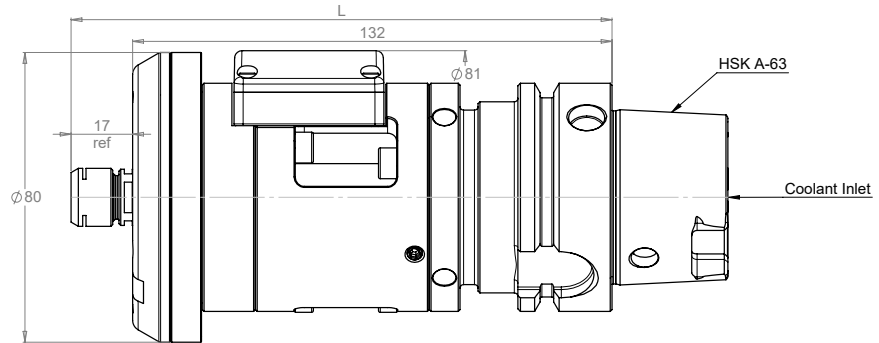
[BT40 Model 3D Light – STP](#)

Catalog

POWER Jet

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet HSK A40	47-085-249	HSK A40	144.40	6.0	2.0

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

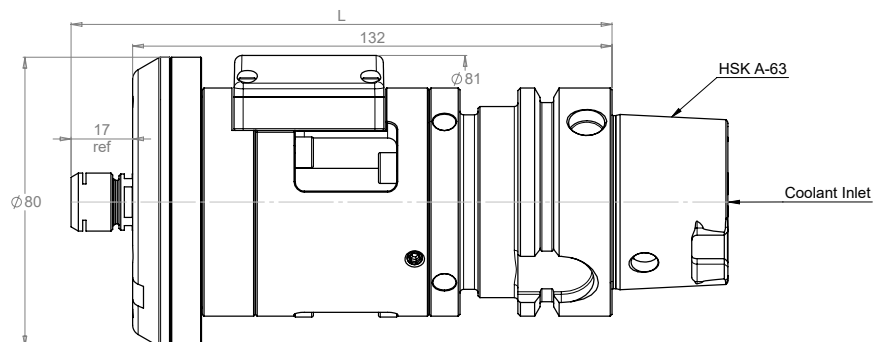
[HSK A40 Primary View 2D – DXF](#)

[HSK A40 Model 3D Detail – STP](#)

[HSK A40 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A40	HSK A63	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet HSK A63	47-085-299	HSK A63	149.40	6.0	2.5

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[HSK A63 Primary View 2D – DXF](#)

[HSK A63 Model 3D Detail – STP](#)

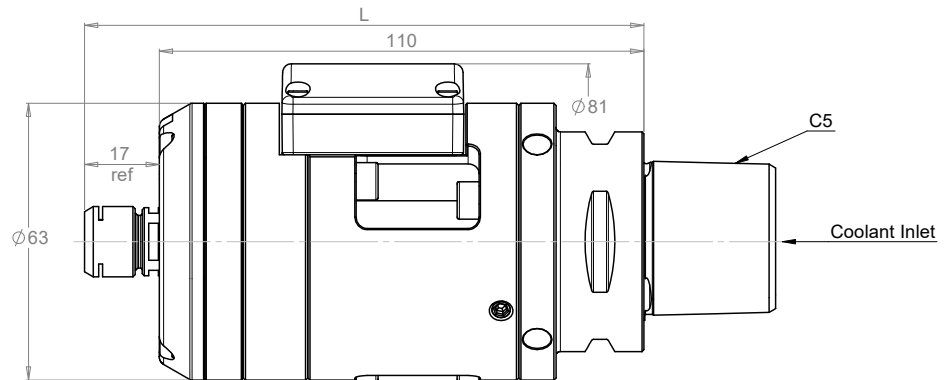
[HSK A63 Model 3D Light – STP](#)

Catalog

POWER Jet

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A63	HSK A40	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet C5	47-085-499	C5	127.40	6.0	2.1

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

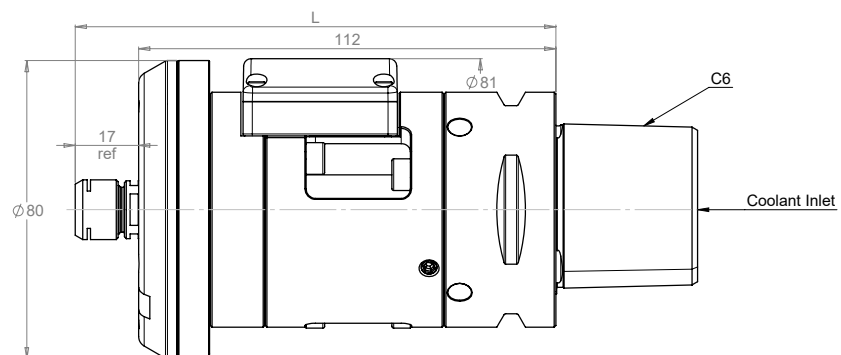
[C5 Primary View 2D – DXF](#)

[C5 Model 3D Detail – STP](#)

[C5 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A63	HSK A40	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet C6	47-085-199	C6	128.90	6.0	2.4

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[C6 Primary View 2D – DXF](#)

[C6 Model 3D Detail – STP](#)

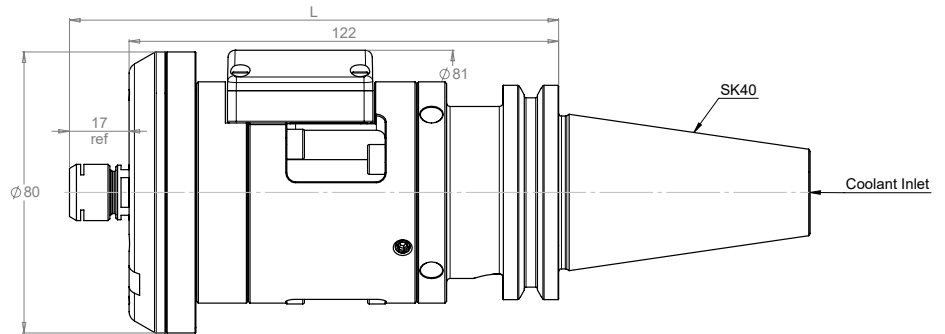
[C6 Model 3D Light – STP](#)

Catalog

POWER Jet

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A63	HSK A40	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet SK30	47-085-839	SK30	139.30	6.0	2.3

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

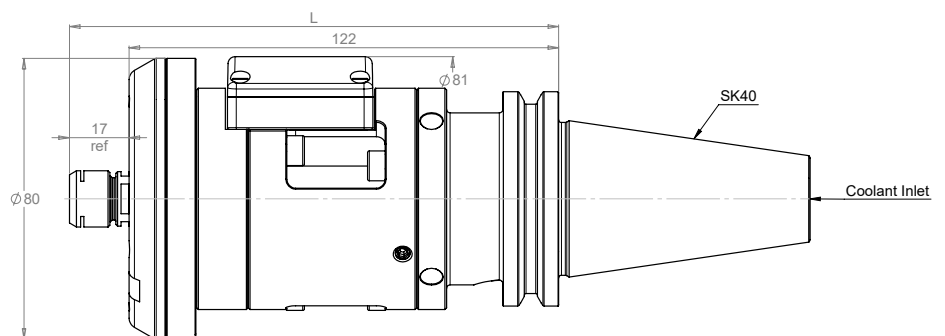
[SK30 Primary View 2D – DXF](#)

[SK30 Model 3D Detail – STP](#)

[SK30 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A63	HSK A40	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet SK40	47-085-849	SK40	139.30	6.0	2.7

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[SK40 Primary View 2D – DXF](#)

[SK40 Model 3D Detail – STP](#)

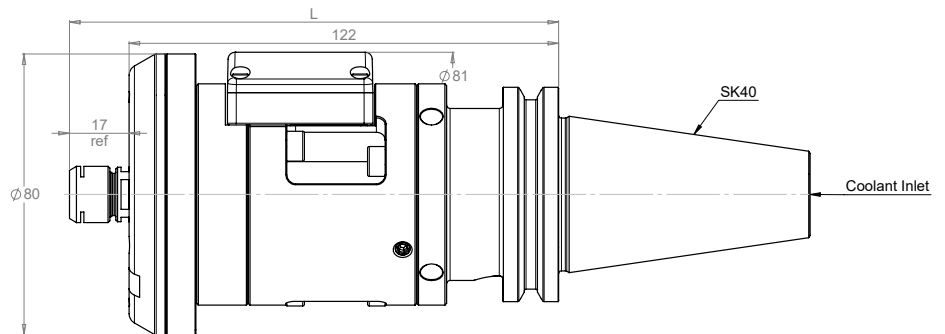
[SK40 Model 3D Light – STP](#)

Catalog

POWER Jet

COMPATIBLE ADAPTOR MODELS

Adapter	ST20	ER32	BT30	BT40	HSK A63	HSK A40	C5	C6	SK30	SK40	CAT40
---------	------	------	------	------	---------	---------	----	----	------	------	-------



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
POWER Jet CAT40	47-085-699	CAT40	139.275	6.0	2.6

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[CAT40 Primary View 2D – DXF](#)

[CAT40 Model 3D Detail – STP](#)

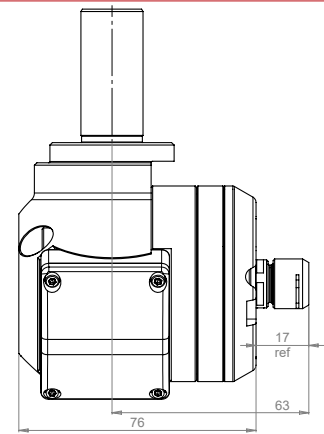
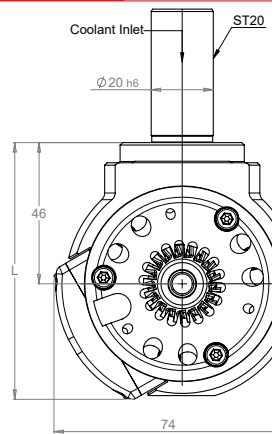
[CAT40 Model 3D Light – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter

ST20 90D G-JET V4

ST20 90D POWER-JET V4



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
ST20 90D ULTRA Jet	37-085-998	ST20	82.70	4.0	1.6

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[ST20 90 D ULTRA Jet Primary View 2D – DXF](#)

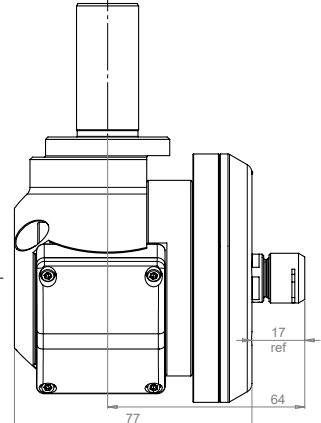
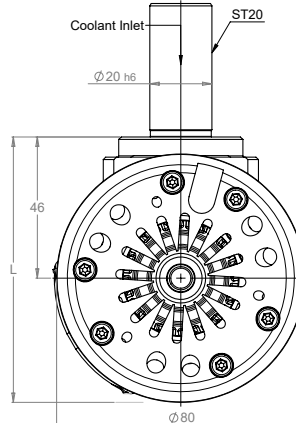
[ST20 90D ULTRA Jet Model 3D Detail – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter

ST20 90D G-JET V4

ST20 90D POWER-JET V4



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
ST20 90D POWER Jet	47-085-998	ST20	85.50	6.0	1.7

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[ST20 90D POWER Jet Primary View 2D – DXF](#)

[ST20 90D POWER Jet Model 3D Detail – STP](#)

Catalog

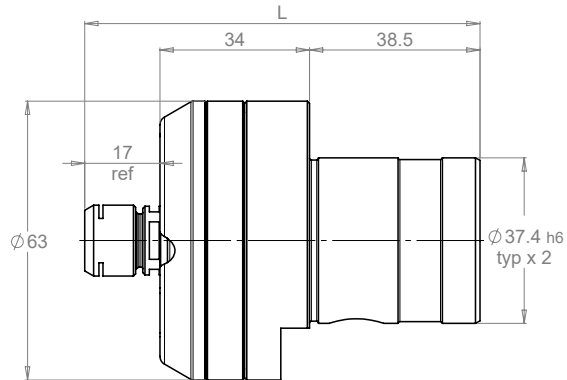
TR Jet

COMPATIBLE ADAPTOR MODELS

Adapter

TR G-JET V4

TR POWER-JET V4



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TR ULTRA Jet	37-085-996	FLANGE CLAMP	89.30	4.0	0.7

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[TR ULTRA Jet Primary View 2D – DXF](#)

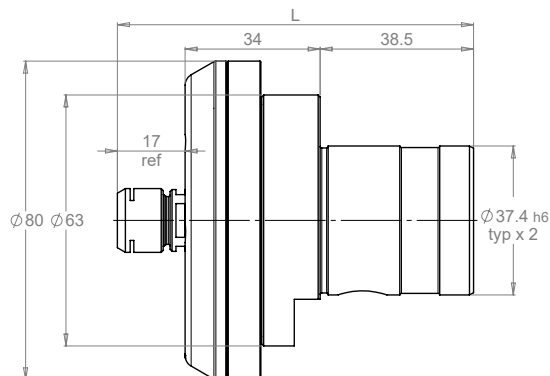
[TR ULTRA Jet Model 3D Detail – STP](#)

COMPATIBLE ADAPTOR MODELS

Adapter

TR G-JET V4

TR POWER-JET V4



Designation	P/N	Adapter	L mm	Tool d max mm	Kg
TR POWER Jet	47-085-996	FLANGE CLAMP	89.40	6.0	0.8

FILES AVAILABLE FOR DOWNLOAD IN ONLINE CATALOGUE: <https://colibrispindles.com/catalog/>

[TR POWER Jet Primary View 2D – DXF](#)

[TR POWER Jet Model 3D Detail – STP](#)



PARTNERS



Colibri Spindles Ltd.
Lavon Industrial Park, 2011800, Israel
Tel +972 4 9089104
Fax +972 4 9589061
marketing@colibrispindles.com
www.colibrispindles.com