



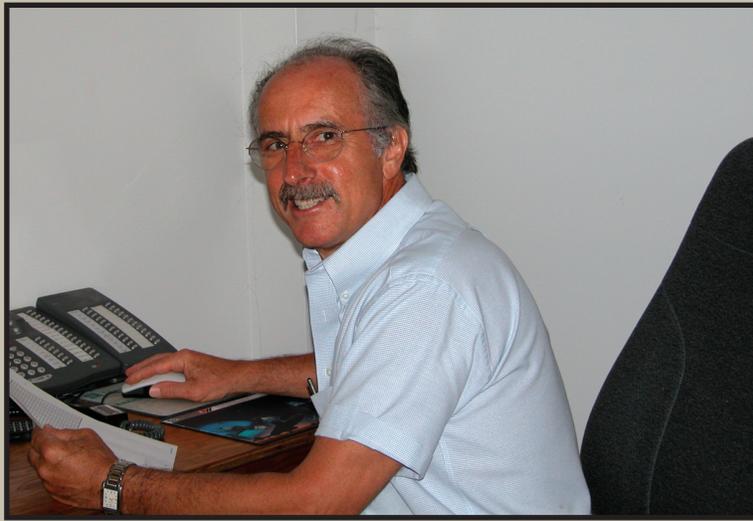
CNC Adjustable Angle Heads

*Advanced Design and
State Of The Art Technology!*



CNC Adjustable Angle Heads Catalog S2.00

DORIAN[®]
INTERNATIONAL
TOOL



Enrico R. Giannetti
President

A Word from the President:

Since the introduction of the Quadra Index Tool Post in 1982, the Dorian Evolution has never stopped. By developing new ideas and promoting new technology, Dorian Tool has continuously improved our service, technical support, and delivery to our customers.

At Dorian Tool, the quest for innovative tools will never end. Our highly trained and skilled engineers have developed technology that set new standards in the industry and changed the machining process forever.

Today, Dorian Tool offers a wide selection of products for manual and CNC machines. From carbide inserts to toolholders; knurling tools to marking tools; machine tool accessories to automated turrets & rotary tables; tool setters to tool presetters; our tool selection has become the First Choice Technology for thousands of small and large shops around the world.

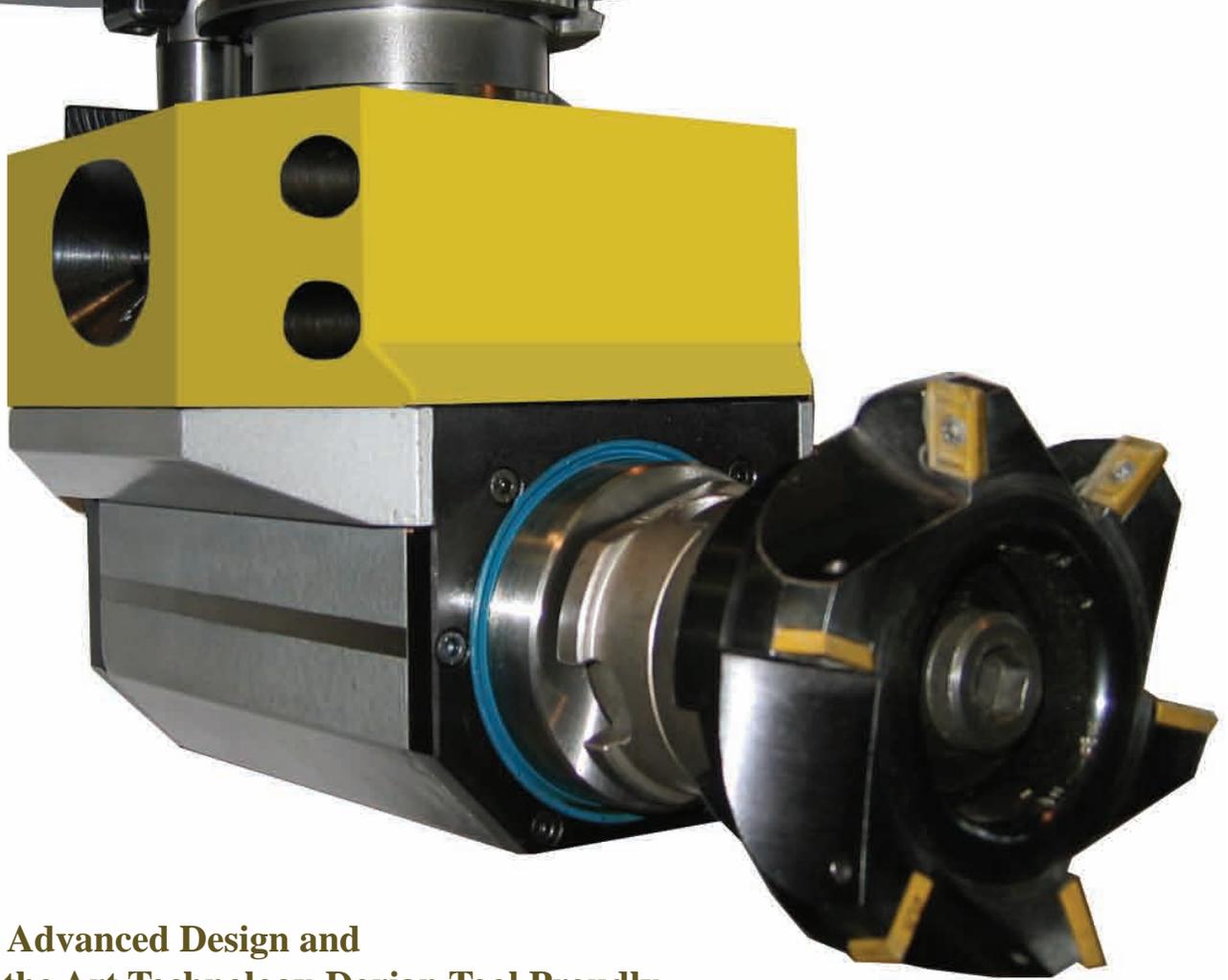
Thank you for making Dorian Tool successful. Our success comes from the original commitment we made to our customers:

Technology, Quality, & Service



Corporate Headquarters &
40,000 SQ Foot Manufacturing Plant
East Bernard, Texas U.S.A.

DORIAN TOOL
First Choice Technology



With its Advanced Design and State of the Art Technology, Dorian Tool Proudly Introduces a New Line of CNC Adjustable Angle Heads.

Choose from two styles (Universal and 90°) and six models for any milling, drilling, tapping and face milling operations.

The **Universal CNC Adjustable Angle Heads** have two positioning axes and are offered in **ER25** and **ER32** collet toolholding systems. The use of the Universal CNC Adjustable Angle Heads increases productivity and quality by eliminating secondary operations and the need for more expensive 4th & 5th axis rotary tables.

The **90° CNC Adjustable Angle Heads** have one positioning axis and are offered in ER16, ER25 and ER32 collet toolholding systems as well as CAT/ISO/BT 40 taper toolholding system.

All Dorian **90° and Universal CNC Adjustable Angle Heads** are designed for interchangeable spindle taper holders among CAT, ISO, and BT toolholders. This allows the customer to use this tool in all CAT, ISO and BT types of spindles by changing the spindle taper holder only.

All Dorian **CNC Adjustable Angle Heads** are designed with the Automatic Tool Change (ATC) capability as an option. ATC Kit must be ordered separately when ordering the CNC Adjustable Angle Head. ATC Kit can also be ordered and installed as an upgrade to existing angle heads in the field. The ATC Kit prevents any rotational body movement of the angle head during automatic loading and unloading by the machine's tool magazine.

The CNC Adjustable Angle Heads will Significantly Reduce the Production Machining Time, Improve the Machining Quality, Reduce Manufacturing Cycle Time and Increase Profitability.



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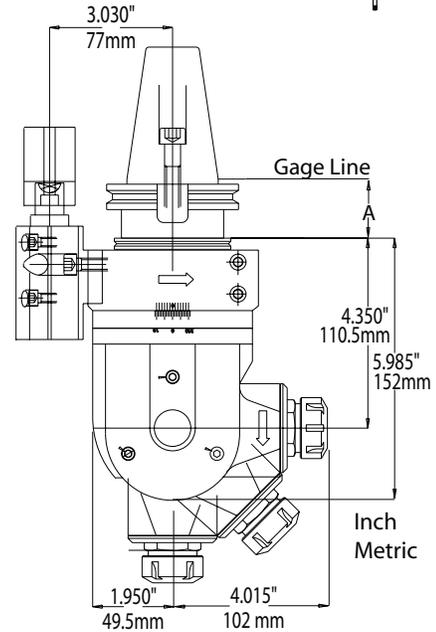
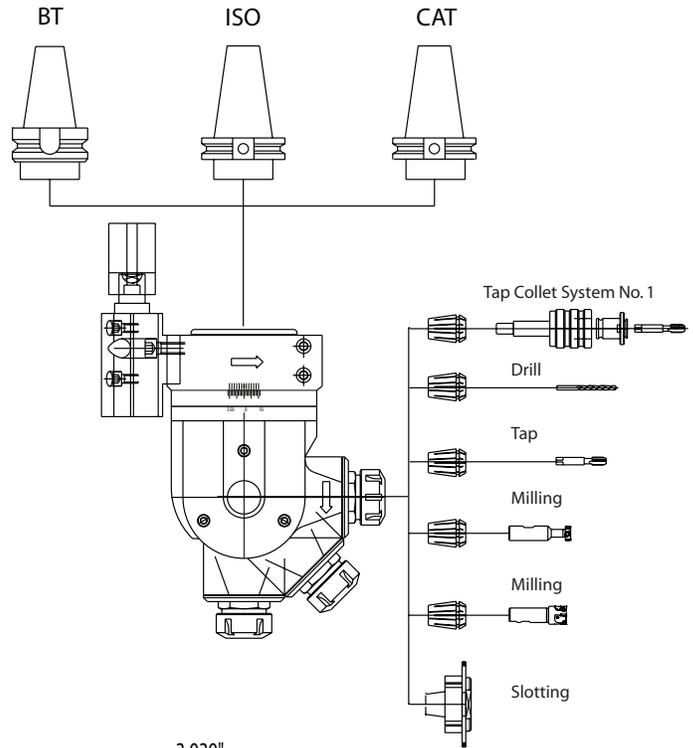
Style	Features	Output	Shank
 <p>Universal CNC Adjustable Angle Head PLCNC- AAH25 Page 4</p>	<ul style="list-style-type: none"> • 4000 RPM max. • ER25 Collet System • Capable of machining in two axial positioning angles • Designed to perform any CNC medium duty operations • Interchangeable spindle taper holder for CAT, ISO & BT Spindles 	ER25 Collet System	ISO40-DIN2080 ISO40-DIN69871 BT40 , CAT40 ISO50-DIN2080 ISO50-DIN69871 BT50 , CAT50
 <p>Universal CNC Adjustable Angle Head PLCNC- AAH32 Page 5</p>	<ul style="list-style-type: none"> • 3500 RPM max. • ER32 Collet System • Designed to perform any CNC heavy duty operations • Capable of machining in two axial positioning angles • Interchangeable spindle taper holder for CAT, ISO & BT Spindles 	ER32 Collet System	ISO40-DIN2080 ISO40-DIN69871 BT40 , CAT40 ISO50-DIN2080 ISO50-DIN69871 BT50 , CAT50
 <p>90° CNC Adjustable Angle Head 90CNC- AAH16 Page 6</p>	<ul style="list-style-type: none"> • 4000 RPM max. • ER16 Collet System • Fixed 90° angle head with 0- 360° circular rotation • Interchangeable spindle taper holder for CAT, ISO & BT Spindles • Designed for precision machining for small to medium tool applications 	ER16 Collet System	ISO40-DIN2080 ISO40-DIN69871 BT40 , CAT40 ISO50-DIN2080 ISO50-DIN69871 BT50 , CAT50
 <p>90° CNC Adjustable Angle Head 90CNC- AAH25 Page 7</p>	<ul style="list-style-type: none"> • 3500 RPM max. • ER25 Collet System • Designed to perform any CNC medium duty operations • Fixed 90° angle head with 0-360° circular rotation • Interchangeable spindle taper holder for CAT, ISO & BT Spindles 	ER25 Collet System	ISO40-DIN2080 ISO40-DIN69871 BT40 , CAT40 ISO50-DIN2080 ISO50-DIN69871 BT50 , CAT50
 <p>90° CNC Adjustable Angle Head 90CNC- AAH32 Page 8</p>	<ul style="list-style-type: none"> • 3500 RPM max. • ER32 Collet System • Designed to perform any CNC heavy duty operations • Fixed 90° angle head with 0-360° circular rotation • Interchangeable spindle taper holder for CAT, ISO & BT Spindles 	ER32 Collet System	ISO40-DIN2080 ISO40-DIN69871 BT40 , CAT40 ISO50-DIN2080 ISO50-DIN69871 BT50 , CAT50
 <p>90° CNC Adjustable Angle Head 90CNC- AAH-TP40 Page 9</p>	<ul style="list-style-type: none"> • 2000 RPM max. • Engineered to accept any CAT, ISO, or BT-40 taper holder. • Designed to perform any CNC heavy duty operations • Fixed 90° angle head with 0-360° circular rotation • Interchangeable spindle taper holder for CAT, ISO & BT Spindles 	CAT/ISO/ BT-40	ISO40-DIN2080 ISO40-DIN69871 BT40 , CAT40 ISO50-DIN2080 ISO50-DIN69871 BT50 , CAT50



Universal CNC Adjustable Angle Head

PLCNC-AAH25

- 4000 RPM max.
- ER25 Collet System
- Capable of machining in two axial positioning angles
- Designed to perform any CNC medium duty operations
- Interchangeable spindle taper holder for CAT, ISO & BT Spindles



Shank Style	Description	UPC 733101-	Torque		Driving Ratio	Max RPM	A Gage Line		Collet Size	Max. Tool Cap. Dia.		Max. Tap Size		*Max Slotting Cutter I.D.		**Weight	
			Nm	lb.ft			in	mm		in	mm	in	mm	in	mm	Kg	Lb
ISO40-DIN2080	PLCNC-AAH-ER25-40DIN2080	45950	15	11	1 To 1	4000	0.520	13.2	ER25	0.625	16	0.625	16	1.250	32	6.5	14.3
ISO40-DIN69871	PLCNC-AAH-ER25-40DIN69871	45951					1.378	35									
BT40	PLCNC-AAH-ER25-BT40	45952					1.457	37									
CAT40	PLCNC-AAH-ER25-CAT40	45953					1.378	35									
ISO50-DIN2080	PLCNC-AAH-ER25-50DIN2080	45954					0.724	18.4									
ISO50-DIN69871	PLCNC-AAH-ER25-50DIN69871	45955					1.457	37									
BT50	PLCNC-AAH-ER25-BT50	45956					2.047	52									
CAT50	PLCNC-AAH-ER25-CAT50	45957					1.457	37									

CNC Adjustable Angle Heads with HSK shanks can be made as a special order upon request.

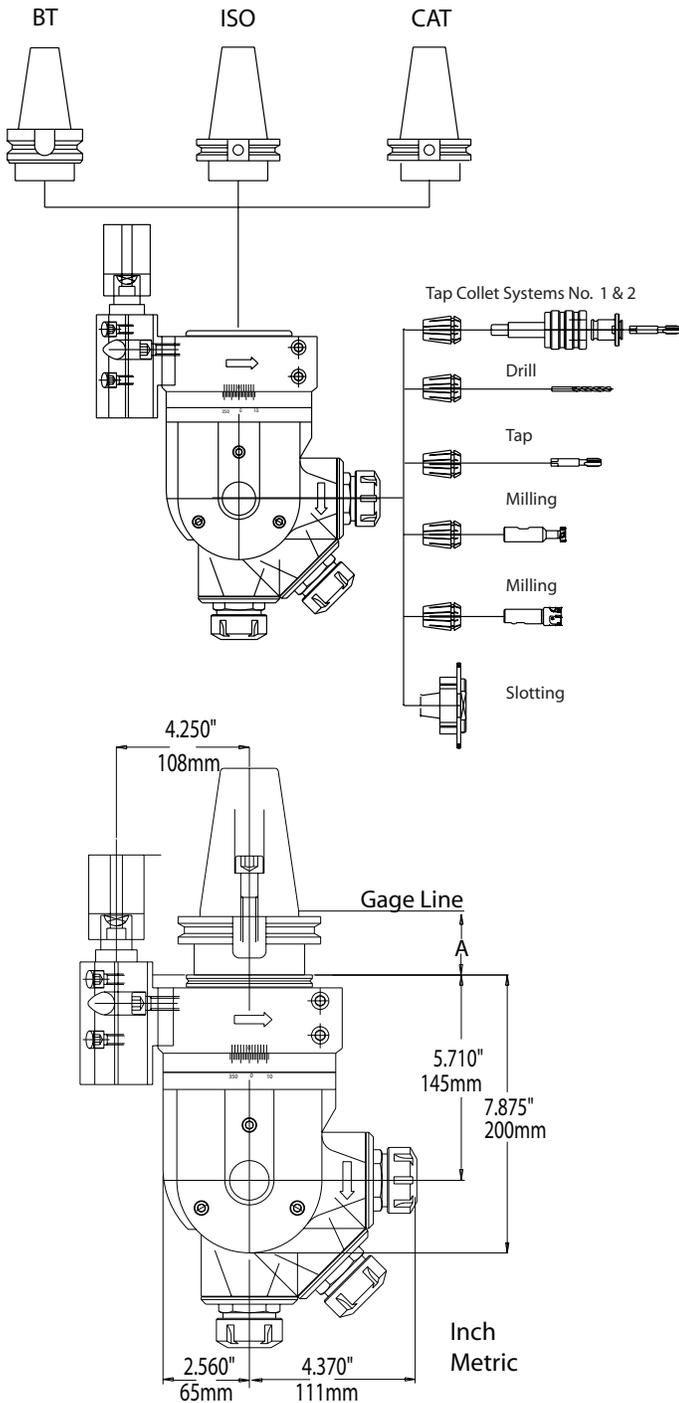
** The weights of the angle heads do not include spindle taper holders.
* Use with Dorian Slotting Cutter Holder PG 14.





PLCNC-AAH32

- 3500 RPM max.
- ER32 Collet System
- Designed to perform any CNC heavy duty operations
- Capable of machining in two axial positioning angles
- Interchangeable spindle taper holder for CAT, ISO & BT Spindles



Shank Style	Description	UPC 733101-	Torque		Driving Ratio	Max RPM	A Gage Line		Collet Size	Max. Tool Cap. Dia.		Max. Tap Size		*Max Slotting Cutter I.D.		**Weight	
			Nm	lb.ft			in	mm		in	mm	in	mm	Kg	Lb		
ISO40-DIN2080	PLCNC-AAH-ER32-40DIN2080	45940	40	29.5	1 to 1	3500	0.520	13.2	ER32	0.750	20	0.812	20	1.500	40	21	46.2
ISO40-DIN69871	PLCNC-AAH-ER32-40DIN69871	45941					1.378	35									
BT40	PLCNC-AAH-ER32-BT40	45942					1.457	37									
CAT40	PLCNC-AAH-ER32-CAT40	45943					1.378	35									
ISO50-DIN2080	PLCNC-AAH-ER32-50DIN2080	45960					0.724	18.4									
ISO50-DIN69871	PLCNC-AAH-ER32-50DIN69871	45961					1.457	37									
BT50	PLCNC-AAH-ER32-BT50	45962					2.047	52									
CAT50	PLCNC-AAH-ER32-CAT50	45963					1.457	37									

CNC Adjustable Angle Heads with HSK shanks can be made as a special order upon request.

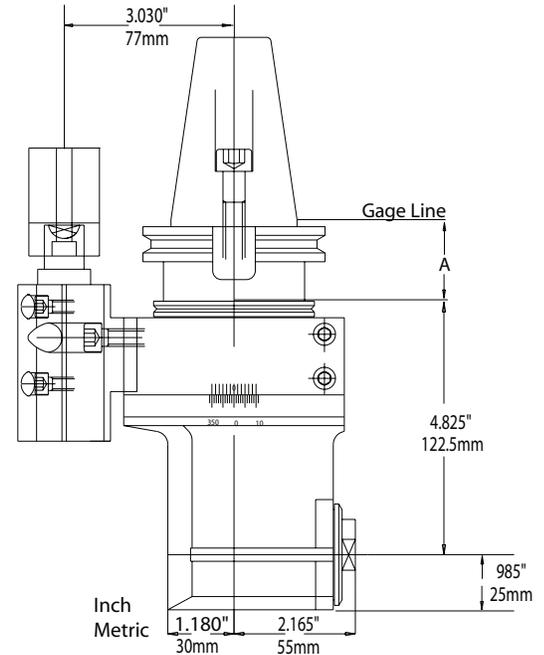
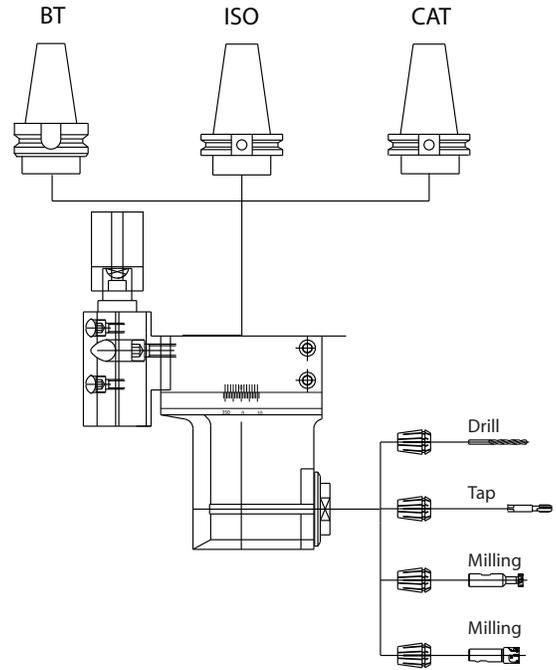
** The weights of the angle heads do not include spindle taper holders.
* Use with Dorian Slotting Cutter Holder PG 14.



90° CNC Adjustable Angle Head

90CNC-AAH16

- 4000 RPM max.
- ER16 Collet System
- Fixed 90° angle head with 0- 360° circular rotation
- Interchangeable spindle taper holder for CAT, ISO & BT Spindles
- Designed for precision machining for small to medium tool applications



Shank Style	Description	UPC 733101-	Torque		Driving Ratio	Max RPM	A Gage Line		Collet Size	Tool Cap. Dia.		Max. Tap Size		*Max Slotting Cutter I.D.		** Weight	
			Nm	lb.ft			in	mm		in	mm	in	mm	in	mm	Kg	Lb
ISO40-DIN2080	90CNC-AAH-ER16-40DIN2080	45965	6.5	4.8	1 to 1	4000	0.520	13.2	ER16	0.375	10	0.312	8	-	-	6.5	14.3
ISO40-DIN69871	90CNC-AAH-ER16-40DIN69871	45966					1.378	35									
BT40	90CNC-AAH-ER16-BT40	45967					1.457	37									
CAT40	90CNC-AAH-ER16-CAT40	45968					1.378	35									
ISO50-DIN2080	90CNC-AAH-ER16-50DIN2080	45969					0.724	18.4									
ISO50-DIN69871	90CNC-AAH-ER16-50DIN69871	45970					1.457	37									
BT50	90CNC-AAH-ER16-BT50	45971					2.047	52									
CAT50	90CNC-AAH-ER16-CAT50	45972					1.457	37									

CNC Adjustable Angle Heads with HSK shanks can be made as a special order upon request.

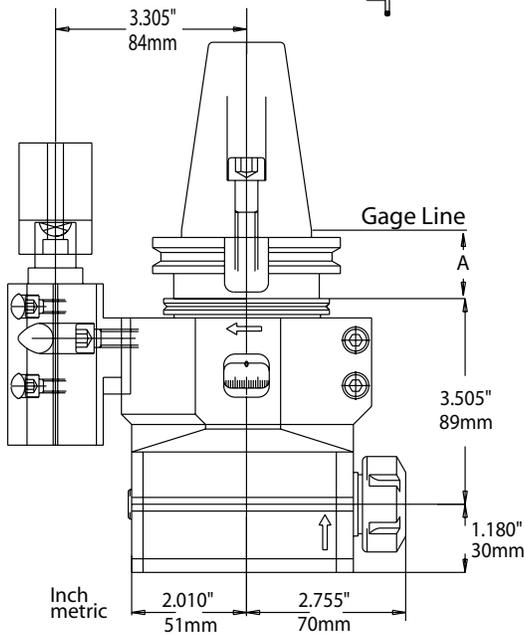
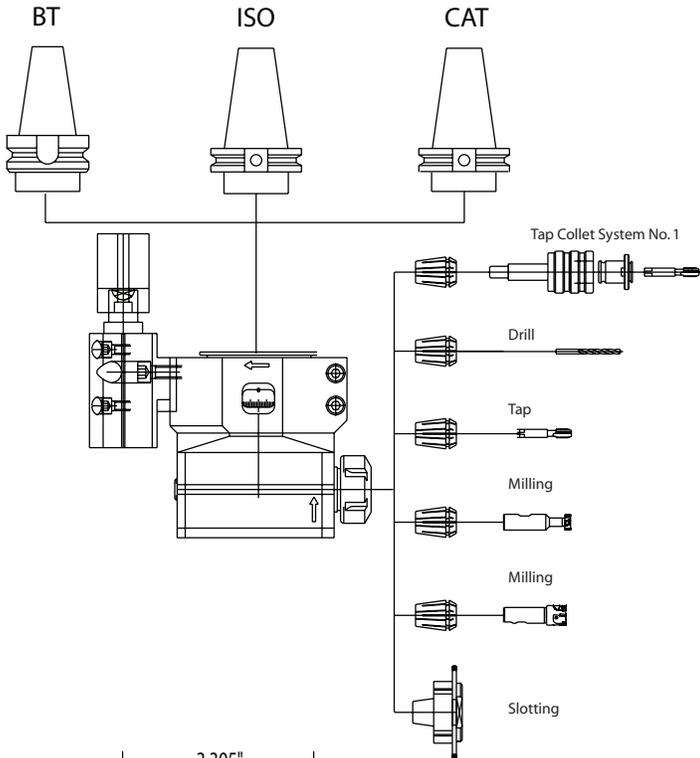
** The weights of the angle heads do not include spindle taper holders.
* Use with Dorian Slotting Cutter Holder PG 14.



90° CNC Adjustable Angle Head

90CNC-AAH25

- 3500 RPM max.
- ER25 Collet System
- Designed to perform any CNC medium duty operations
- Fixed 90° angle head with 0-360° circular rotation
- Interchangeable spindle taper holder for CAT, ISO & BT Spindles



Shank Style	Description	UPC 733101-	Torque		Driving Ratio	Max RPM	A Gage Line		Collet Size	Tool Cap. Dia.		Max. Tap Size		*Max Slotting Cutter I.D.		** Weight	
			Nm	lb.ft			in	mm		in	mm	in	mm	in	mm	Kg	Lb
ISO40-DIN2080	90CNC-AAH-ER25-40DIN2080	45974	20	14.7	1 to 1	3500	0.520	13.2	ER25	0.625	16	0.625	16	1.250	32	6.5	14.3
ISO40-DIN69871	90CNC-AAH-ER25-40DIN69871	45975					1.378	35									
BT40	90CNC-AAH-ER25-BT40	45976					1.457	37									
CAT40	90CNC-AAH-ER25-CAT40	45977					1.378	35									
ISO50-DIN2080	90CNC-AAH-ER25-50DIN2080	45978					0.724	18.4									
ISO50-DIN69871	90CNC-AAH-ER25-50DIN69871	45979					1.457	37									
BT50	90CNC-AAH-ER25-BT50	45980					2.047	52									
CAT50	90CNC-AAH-ER25-CAT50	45981					1.457	37									

CNC Adjustable Angle Heads with HSK shanks can be made as a special order upon request.

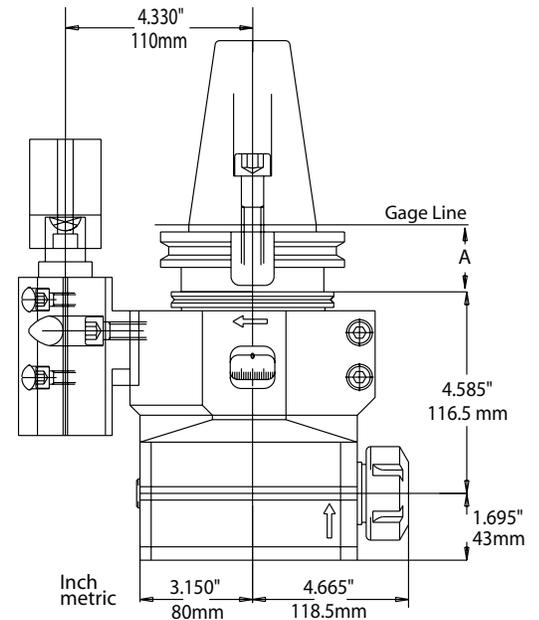
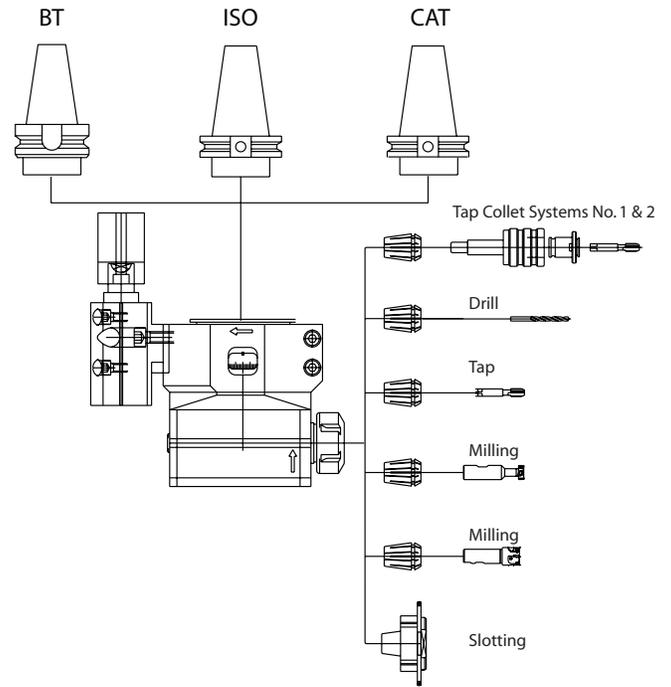
** The weights of the angle heads do not include spindle taper holders.
* Use with Dorlan Slotting Cutter Holder PG 14.



90° CNC Adjustable Angle Head

90CNC-AAH32

- 3500 RPM max.
- ER32 Collet System
- Designed for any fixed 90° heavy duty operations
- Fixed 90° angle head with 0-360° circular rotation
- Interchangeable spindle taper holder for CAT, ISO & BT Spindles



Shank Style	Description	UPC 733101-	Torque		Driving Ratio	Max RPM	A Gage Line		Collet Size	Tool Cap. Dia.		Max. Tap Size		*Max Slotting Cutter I.D.		** Weight	
			Nm	lb.ft			in	mm		in	mm	in	mm	in	mm	Kg	Lb
ISO40-DIN2080	90CNC-AAH-ER32-40DIN2080	45983	60	44	1 to 1	3500	0.520	13.2	ER32	0.750	20	0.812	20	1.500	60	20	44
ISO40-DIN69871	90CNC-AAH-ER32-40DIN69871	45984					1.378	35									
BT40	90CNC-AAH-ER32-BT40	45985					1.457	37									
CAT40	90CNC-AAH-ER32-CAT40	45986					1.378	35									
ISO50-DIN2080	90CNC-AAH-ER32-50DIN2080	45987					0.724	18.4									
ISO50-DIN69871	90CNC-AAH-ER32-50DIN69871	45988					1.457	37									
BT50	90CNC-AAH-ER32-BT50	45989					2.047	52									
CAT50	90CNC-AAH-ER32-CAT50	45990					1.457	37									

CNC Adjustable Angle Heads with HSK shanks can be made as a special order upon request.

** The weights of the angle heads do not include spindle taper holders.
* Use with Dorian Slotting Cutter Holder PG 14.

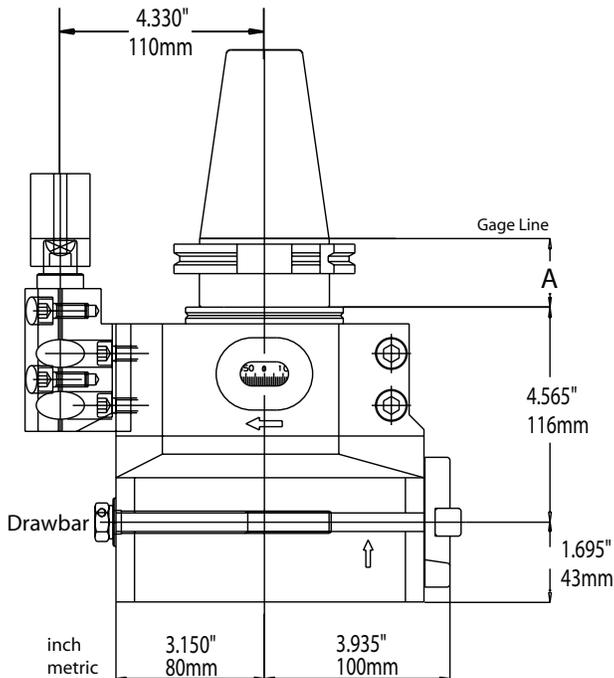
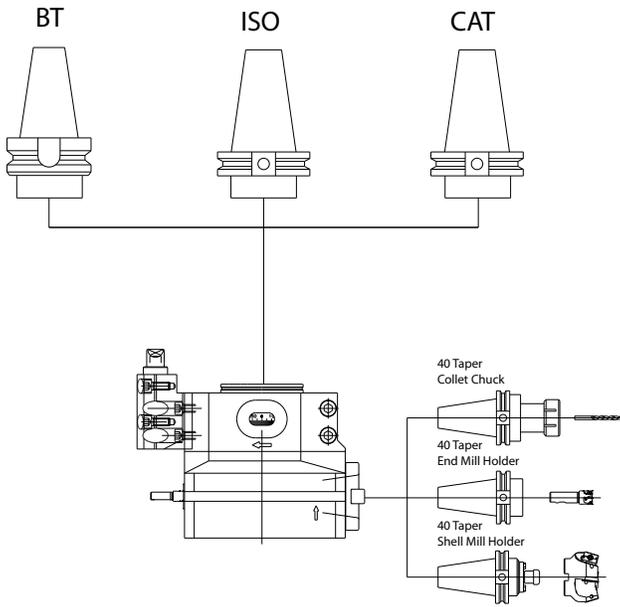




90° CNC Adjustable Angle Head

90CNC-AAH-TAPER40

- 2000 RPM max.
- Engineered to accept any CAT, ISO, or BT-40 taper holder
- Designed to perform any CNC heavy duty operations
- Fixed 90° angle head with 0-360° circular rotation
- Interchangeable spindle taper holder for CAT, ISO & BT Spindles



Shank Style	Description	UPC 733101-	Torque		Driving Ratio	Max RPM	A Gage Line		Output	* Weight	
			Nm	lb.ft			in	mm		Kg	Lb
ISO40-DIN2080	90CNC-AAH-TP40-40DIN2080	45933	40	29.5	1 to 1	2000	0.520	13.2	ISO40 CAT40 BT40	20	44
ISO40-DIN69871	90CNC-AAH-TP40-40DIN69871	45934					1.378	35			
BT40	90CNC-AAH-TP40-BT40	45935					1.457	37			
CAT40	90CNC-AAH-TP40-CAT40	45936					1.378	35			
ISO50-DIN2080	90CNC-AAH-TP40-50DIN2080	45993					0.724	18.4			
ISO50-DIN69871	90CNC-AAH-TP40-50DIN69871	45994					1.457	37			
BT50	90CNC-AAH-TP40-BT50	45995					2.047	52			
CAT50	90CNC-AAH-TP40-CAT50	45996					1.457	37			

CNC Adjustable Angle Heads with HSK shanks can be made as a special order upon request.

* The weights of the angle heads do not include spindle taper holders.



CNC Adjustable Angle Head Installation

All CNC Adjustable Angle Heads include:

1. One CNC Adjustable Angle Head
2. One Positioning Pin Holder
3. One Spindle Taper Holder
4. One Positioning Stop Block with two socket head cap screws and one locator pin
5. One Collet Chuck Nut *
6. One Wrench for the Collet Chuck Nut *

* Not included with 90CNC-AAH-TAPER40

Installation:

Step 1: Manually load the CNC Adjustable Angle Head (1) into the machine's spindle.

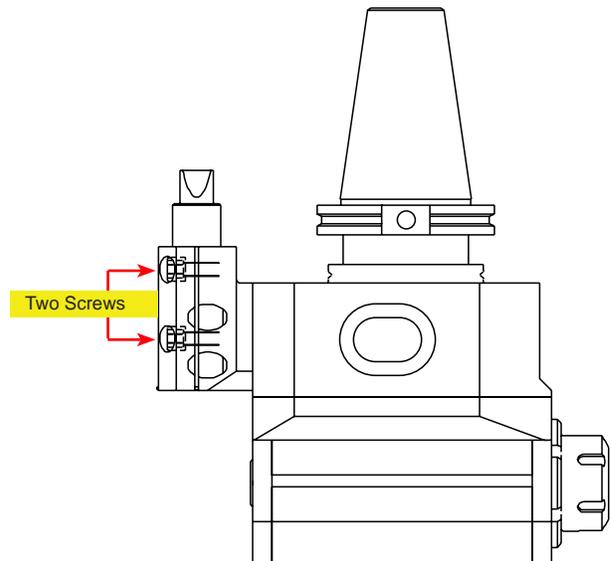
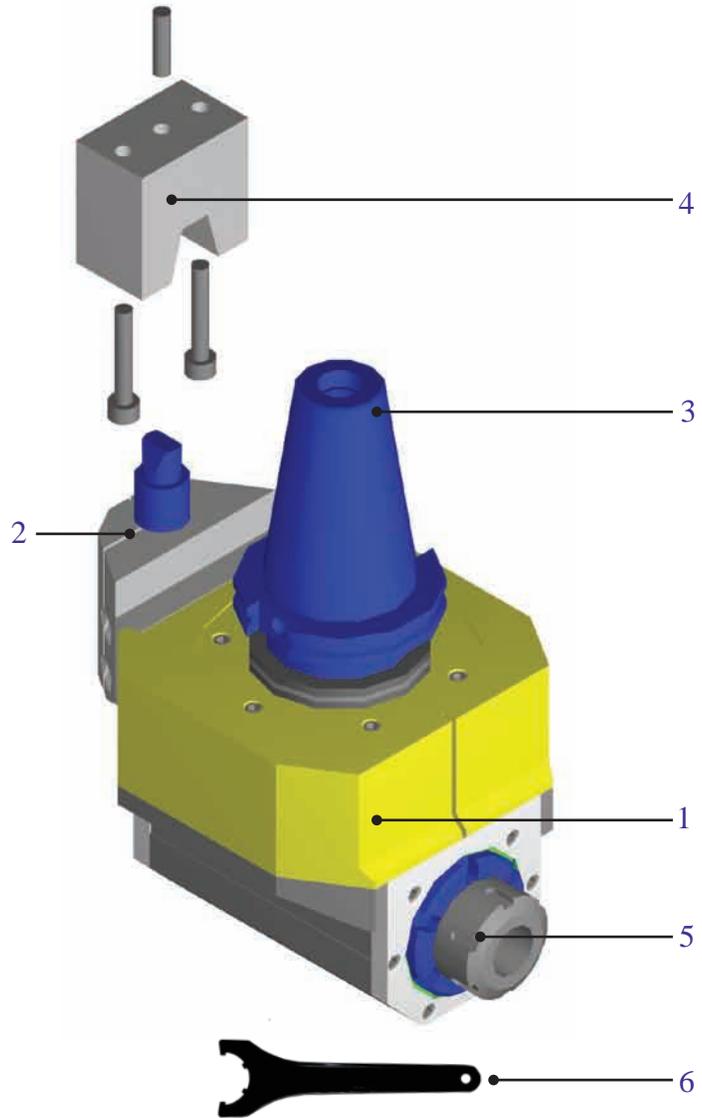
Step 2: Place the Positioning Stop Block (4) on the machine's spindle face and line it up with the Positioning Pin Holder (2) of the CNC Adjustable Angle Head. Loosen the two socket head cap screws on the Positioning Pin Holder (2) to allow free movement of the spring loaded pin. Slide the spring loaded pin into the tapered cavity of the Positioning Stop Block (4) to align and engage the Positioning Stop Block (4) with the Positioning Pin Holder (2).

Step 3: Make sure that the Positioning Stop Block (4) is not in the way of the tool changer arm or any other moving machine component.

Step 4: Secure the Positioning Stop Block (4) to the spindle face using the bolts and the guide pin provided. You will have to custom make an adapter sleeve that will clamp around the spindle body as shown in the sample picture below, or if the spindle face already has tapped holes, you can use those holes to attach the adapter plate to the machine spindle.

Step 5: Ensure correct engagement between the Positioning Stop Block (4) and the Positioning Pin Holder (2). If necessary loosen the two socket cap screws on the Positioning Pin Holder (2) again and slide the spring loaded pin up or down to the position where it is fully engaged with the Positioning Stop Block. At this position the spring loaded pin on the Positioning Pin Holder (2) must be compressed. Then tighten the cap screws.

The installation is now complete and the CNC Adjustable Angle Head can be loaded and unloaded (manually) when needed.





CNC Adjustable Angle Head Installation for Automatic Tool Change

The ATC Kit Includes:

1. One Positioning Stop Block with two socket head cap screws and a locator pin
2. One ATC Positioning Pin Holder with four socket head cap screws (Includes Position Locking Pin (4))
3. One Position Locking Plate (Includes Locking Screw)

ATC Kit Installation:

Step 1: Replace the standard Positioning Pin Holder on the CNC Adjustable Angle Head with the ATC Positioning Pin Holder (2).

Step 2: Install the Position Locking Plate (3) around the flange on the CNC Adjustable Angle Head as shown in the schematic.

Step 3: Install the Positioning Stop Block (1) following the instructions on the previous page. The Positioning Stop Block provided in the ATC Kit is exactly the same as the standard one that comes with the CNC Adjustable Angle Head.

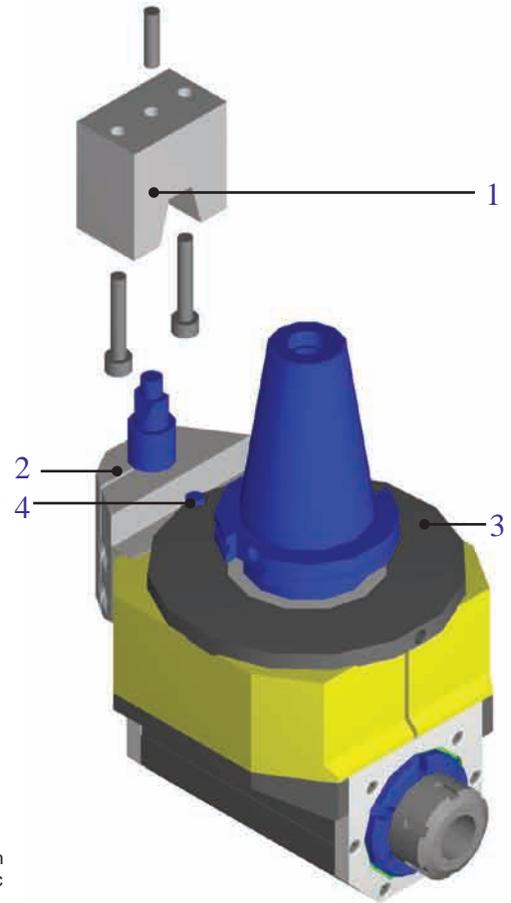
Step 4: Load the CNC Adjustable Angle Head into machine's spindle and using the Spindle-Orientation M-Code orient and lock the machine's spindle.

Step 5: Rotate the Position Locking Plate until the Position Locking Pin (4) on the ATC Positioning Pin Holder (2) falls into the groove on the Position Locking Plate (3).

Step 6: Tighten the locking screw on the Position Locking Plate (3) to secure its position on the CNC Adjustable Angle Head.

The installation is now complete and the CNC Adjustable Angle Head is ready to be used in conjunction with the machining center's automatic tool changer system.

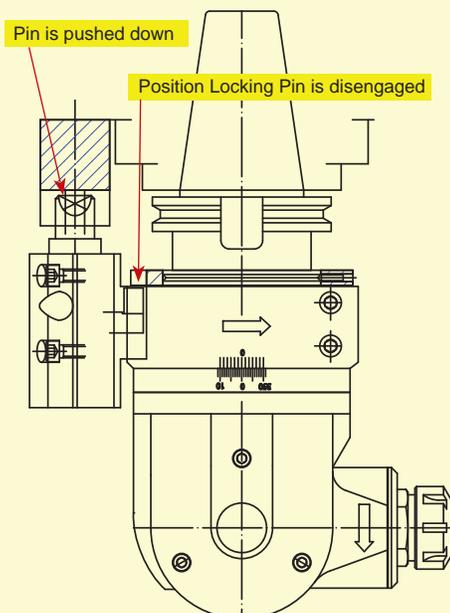
Important: All Dorian 90° and Universal CNC Adjustable Angle Heads can be used in conjunction with the automatic tool changer of the CNC machine. For this purpose Dorian Tool provides an optional Automatic Tool Change (ATC) Kit. The ATC Kit is sold separately and can be ordered with the CNC Adjustable Angle Head or anytime afterwards for field installation. It is solely the customer's responsibility to make sure that his/her machining center's automatic tool changer can safely store, index and change the CNC Adjustable Angle Head without any clearance or weight issues. Any damage to any machine component during the installation and/or the use of the Dorian CNC Adjustable Angle Heads with ATC Kit is solely the customer's responsibility.



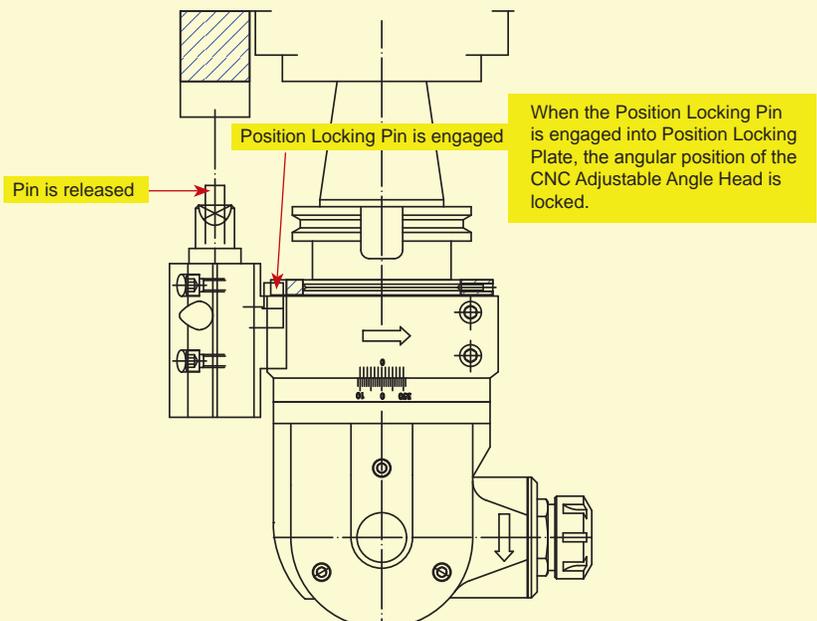
Loading and unloading of the CNC Adjustable Angle Head using Automatic Tool Change Kit:

Note: Prevention of any potential harm to the machine or the operator originating from the use of the Dorian CNC Adjustable Angle Head is solely the customer's responsibility. Please pay attention to the clearance issues during storage and indexing moves of the machine as well as weight capacity of the tool changer system. If unsure of safety, DO NOT use the automatic tool change option.

WHEN LOADING INTO THE MACHINE

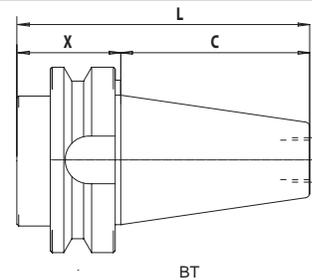
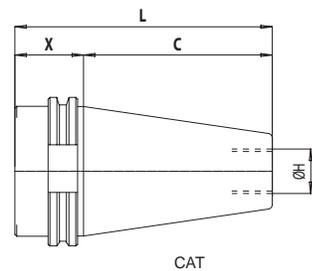
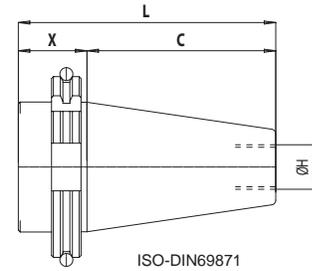
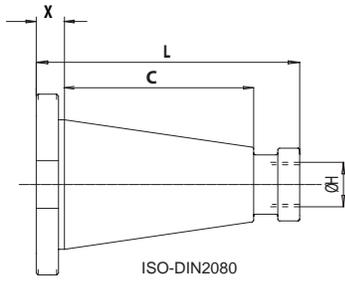


WHEN UNLOADING FROM THE MACHINE





Spindle Taper Holders CAT-BT-ISO 40/50

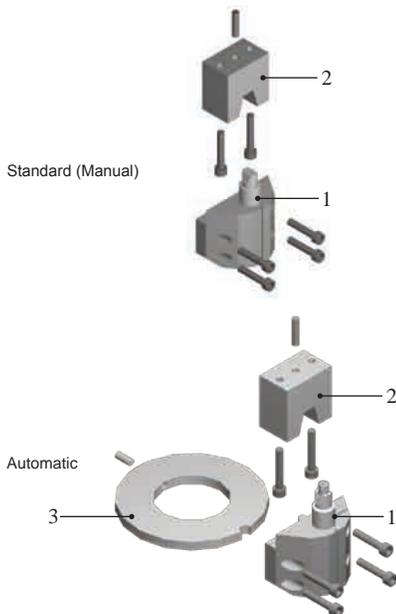


Style	ISO40-DIN2080		ISO50-DIN2080	
	in	mm	in	mm
Description	AHIS040-DIN2080		AHIS050-DIN2080	
Part No. 733101-	46003		46004	
C	2.512	63.8	3.882	98.6
H	M16	M16	M24	M24
L	4.134	105	5.591	142
X	.520	13.2	.724	18.4

Style	ISO40-DIN69871		ISO50-DIN69871	
	in	mm	in	mm
Description	AHIS040-DIN69871		AHIS050-DIN69871	
Part No. 733101-	46012		46021	
C	2.693	68.4	4.006	101.75
H	M16	M16	M24	M24
L	4.071	103.4	5.463	138.75
X	1.378	35	1.457	37

Style	CAT40		CAT50	
	in	mm	in	mm
Description	AHCAT40		AHCAT50	
Part No. 733101-	46001		46002	
C	2.693	68.4	4.006	101.75
H	5/8-11	5/8-11	1-8	1-8
L	4.071	103.4	5.463	138.75
X	1.378	35	1.457	37

Style	BT40		BT50	
	in	mm	in	mm
Description	AHBT40		AHBT50	
Part No. 733101-	46005		46006	
C	2.575	65.4	4.008	101.8
H	M16	M16	M24	M24
L	4.032	102.4	6.055	153.8
X	1.457	37	2.047	52



Standard (Manual) CNC Adjustable Angle Head Installation Kit

Part No. 733101-	Description	Reference CNC Adjustable Angle Head	Kit Includes
45921	AAH-MKIT1	PLCNC-AAH25, 90CNC-AAH16, 90CNC-AAH25	1. One Positioning Pin Holder (includes four socket head cap screws) 2. One Positioning Stop Block (includes two socket head cap screws and one locator pin)
45922	AAH-MKIT2	PLCNC-AAH32	
45923	AAH-MKIT3	90CNC-AAH32, 90CNC-AAH-TAPER40	

CNC Adjustable Angle Head Automatic Tool Change Installation Kit

Part No. 733101-	Description	Reference CNC Adjustable Angle Head	Kit Includes
46013	AAH-ATCKIT1	PLCNC-AAH25, 90CNC-AAH16, 90CNC-AAH25	1. One ATC Positioning Pin Holder (includes four socket head cap screws) 2. One Automatic Positioning Stop Block (includes two socket head cap screws and one locator pin) 3. One Position Locking Plate (includes locking screw)
46014	AAH-ATCKIT2	PLCNC-AAH32	
46015	AAH-ATCKIT3	90CNC-AAH32, 90CNC-AAH-TAPER40	



Precision ER Collets

	Collet Capacity		Precision ER16 Collets		Precision ER25 Collets		Precision ER32 Collets	
	Inch	Metric	Description	Part No. 733101-	Description	Part No. 733101-	Description	Part No. 733101-
ER16	.019 - .039	.5 - 1	ER16-STIMC-10	46290	-	-	-	-
	.039 - .078	1 - 2	ER16-STIMC-20	46291	ER25-STIMC-20	46430	-	-
	.078 - .118	2 - 3	ER16-STIMC-30	46292	ER25-STIMC-30	46431	ER32-STIMC-30	46522
	.098 - .137	2.5 - 3.5	-	-	ER25-STIMC-35*	46432	ER32-STIMC-35*	46523
	.118 - .157	3 - 4	ER16-STIMC-40	46293	ER25-STIMC-40	46433	ER32-STIMC-40	46524
ER25	.157 - .197	4 - 5	ER16-STIMC-50	46294	ER25-STIMC-50	46434	ER32-STIMC-50	46525
	.197 - .236	5 - 6	ER16-STIMC-60	46295	ER25-STIMC-60	46435	ER32-STIMC-60	46526
	.236 - .275	6 - 7	ER16-STIMC-70	46296	ER25-STIMC-70	46436	ER32-STIMC-70	46527
	.275 - .314	7 - 8	ER16-STIMC-80	46297	ER25-STIMC-80	46437	ER32-STIMC-80	46528
	.314 - .354	8 - 9	ER16-STIMC-90	46298	ER25-STIMC-90	46438	ER32-STIMC-90	46529
	.354 - .393	9 - 10	ER16-STIMC-100	46299	ER25-STIMC-100	46439	ER32-STIMC-100	46530
	.393 - .433	10 - 11	-	-	ER25-STIMC-110	46440	ER32-STIMC-110	46531
	.413 - .452	10.5 - 11.5	-	-	-	-	ER32-STIMC-115*	46532
	.433 - .452	11 - 11.5	-	-	ER25-STIMC-115*	46441	-	-
	.433 - .472	11 - 12	-	-	ER25-STIMC-120	46442	ER32-STIMC-120	46533
ER32	.472 - .511	12 - 13	-	-	ER25-STIMC-130	46443	ER32-STIMC-130	46534
	.511 - .551	13 - 14	-	-	ER25-STIMC-140	46444	ER32-STIMC-140	46535
	.551 - .590	14 - 15	-	-	ER25-STIMC-150	46445	ER32-STIMC-150	46536
	.590 - .629	15 - 16	-	-	ER25-STIMC-160	46446	ER32-STIMC-160	46537
	.629 - .669	16 - 17	-	-	-	-	ER32-STIMC-170	46538
	.669 - .708	17 - 18	-	-	-	-	ER32-STIMC-180	46539
	.708 - .748	18 - 19	-	-	-	-	ER32-STIMC-190	46540
	.728 - .767	18.5 - 19.5	-	-	-	-	ER32-STIMC-195*	46541
	.748 - .787	19 - 20	-	-	-	-	ER32-STIMC-200	46542

Precision ER Collets Set



Description	Part No. 733101-	Qty	Collet Range
ER16-CS-0393	46769	10	.019 - .393
ER25-CS-0629	46771	15	.039 - .629
ER32-CS-0787	46772	18	.078 - .787

See table above for Individual collet sizes
 *Collet sizes ER25-STIMC-35, ER25-STIMC-115, ER32-STIMC-35, ER32-STIMC-115 and ER32-STIMC-195 are not included in these sets.

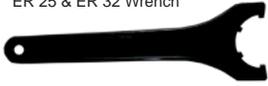
Rigid Tap ER Collets

	Tap Size		Shank Diameter	Size of Square	Rigid Tap ER16 Collets		Rigid Tap ER25 Collets		Rigid Tap ER32 Collets	
	Inch	Metric			Description	Part No. 733101-	Description	Part No. 733101-	Description	Part No. 733101-
ER16	0 - 6	M1.6-M3.5	.141	.110	ER16-TC-0141	46344	ER25-TC-0141	46504	ER32-TC-0141	46602
	8	M4	.168	.131	ER16-TC-0168	46345	ER25-TC-0168	46505	ER32-TC-0168	46603
	10	M4.5,M5	.194	.152	ER16-TC-0194	46346	ER25-TC-0194	46506	ER32-TC-0194	46604
	12	-	.220	.165	ER16-TC-0220	46347	ER25-TC-0220	46507	ER32-TC-0220	46605
	1/4	M6,M6.3	.255	.191	ER16-TC-0255	46348	ER25-TC-0255	46508	ER32-TC-0255	46606
ER25	5/16	M7,M8	.318	.238	ER16-TC-0318	46349	ER25-TC-0318	46509	ER32-TC-0318	46607
	3/8	M10	.381	.286	-	-	ER25-TC-0381	46510	ER32-TC-0381	46608
	7/16	-	.323	.242	-	-	ER25-TC-0323	46511	ER32-TC-0323	46609
	1/2	M12,M12.5	.367	.275	-	-	ER25-TC-0367	46512	ER32-TC-0367	46610
	9/16	M14	.429	.322	-	-	ER25-TC-0429	46513	ER32-TC-0429	46611
	5/8	M16	.480	.360	-	-	ER25-TC-0480	46514	ER32-TC-0480	46612
	11/16	M18	.542	.406	-	-	-	-	ER32-TC-0542	46613
	3/4	-	.590	.442	-	-	-	-	ER32-TC-0590	46614
	13/16	M20	.652	.489	-	-	-	-	ER32-TC-0652	46615
	ER32	NPT Tap				-	-	-	-	-
1/16, 1/8-SS		-	.3125	.234	-	-	ER25-TC-0312	46515	ER32-TC-0312	46616
1/8-LS		-	.4375	.328	-	-	ER25-TC-0437	46516	ER32-TC-0437	46617
1/4		-	.5625	.421	-	-	-	-	ER32-TC-0562	46618



Accessories

ER 25 & ER 32 Wrench



ER16 Wrench



ER 25 & ER 32 Collet Nut



ER16 Collet Nut



ER Collet Nut Wrenches

ER Standard Collet Nut Wrench			
Style	Description	Part No. 733101-	Type
ER16	ER16STWR-AAH	45998	ER Standard Wrench
ER 25	ER25STWR	49996	ER Standard Wrench
ER 32	ER32STWR	49997	ER Standard Wrench

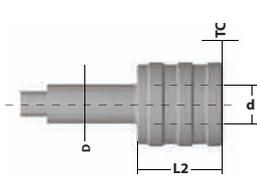
ER Collet Nuts

ER Standard Collet Nuts (Dimensions are in mm)					
Style	Description	Part No. 733101-	Body Dia.	Length	Thread
ER 16	ER16NTS24-080	49771	24	8	M24X1.0
ER 25	ER25NTS32-200	49782	42	20	M32x1.5
ER 32	ER32NTS50-225	49783	50	22.5	M40x1.5

Tap Collets- Positive Drive

	Tap Size	Shank Diameter	Size of Square	Tap Collets - Positive Drive Tap System #1		Tap Collets - Positive Drive Tap System #2		
				Description	Part No. 733101-	Description	Part No. 733101-	
 Positive Drive Tap System #1	0 - 6	.141	.110	T1-PDTC-0141	47426	-	-	
	8	.168	.131	T1-PDTC-0168	47427	-	-	
	10	.194	.152	T1-PDTC-0194	47428	-	-	
	12	.220	.165	T1-PDTC-0220	47429	-	-	
	1/4	.255	.191	T1-PDTC-0255	47430	-	-	
	5/16	.318	.238	T1-PDTC-0318	47431	T2-PDTC-0318	47437	
	3/8	.381	.286	T1-PDTC-0381	47432	T2-PDTC-0381	47438	
	7/16	.323	.242	T1-PDTC-0323	47433	T2-PDTC-0323	47439	
	1/2	.367	.275	T1-PDTC-0367	47434	T2-PDTC-0367	47440	
	9/16	.429	.322	T1-PDTC-0429	47435	T2-PDTC-0429	47441	
 Positive Drive Tap System #2	5/8	.480	.360	-	-	T2-PDTC-0480	47442	
	11/16	.542	.406	-	-	T2-PDTC-0542	47443	
	3/4	.590	.442	-	-	T2-PDTC-0590	47444	
	13/16	.652	.489	-	-	T2-PDTC-0652	47445	
	7/8	.697	.523	-	-	T2-PDTC-0697	47446	
	NPT Tap							
	1/8P	.313	.234	T1-PDTC-0313	47436	-	-	
	1/4P	.562	.421	-	-	T2-PDTC-0562	47447	
	3/8P	.700	.531	-	-	T2-PDTC-0700	47448	
	1/2P	.687	.515	-	-	T2-PDTC-0687	47449	

Straight Shank Tension Compression Tap Holder

	Style	Description	Part No. 733101-	Tap Range	NPT Tap Range	Units	D	L2	d	T	C	Tap Collet System
	SS0014	SS0014-TCTH01-0039	46022	0-9/16	1/8P	in	.551	1.535	.748	.118	.118	
SS0020	SS0020-TCTH02-0063	46023	5/16-7/8	1/4P-1/2P	mm	14	39	19	3	3		2
					in	.787	2.480	1.220	.492	.492		2
					mm	20	63	31	12.5	12.5		2

Slotting Cutter Holder (for light machining)

	Description	Part No. 733101-	Slotting Cutter ID	Collet Size
	MDH-087-ER25-I	45883	.875 in	ER25
	MDH-022-ER25-M	45884	22 mm	
	MDH-100-ER25-I	45890	1.000 in	
	MDH-027-ER25-M	45891	27 mm	
	MDH-125-ER25-I	45892	1.250 in	
	MDH-032-ER25-M	45893	32 mm	

Slotting Cutter Holder (for light machining)

Description	Part No. 733101-	Slotting Cutter ID	Collet Size
MDH-087-ER32-I	45898	.875 in	ER32
MDH-022-ER32-M	45899	22 mm	
MDH-100-ER32-I	45900	1.000 in	
MDH-027-ER32-M	45901	27 mm	
MDH-125-ER32-I	45912	1.250 in	
MDH-032-ER32-M	45913	32 mm	
MDH-150-ER32-I	45914	1.500 in	
MDH-040-ER32-M	45915	40 mm	



12 MONTHS LIMITED WARRANTY PROGRAM

This limited warranty program is the only one that applies to this product, and it sets forth all the responsibilities of Dorian Tool, regarding this product. There is no other warranty, other than those described herein. This Dorian Tool product is warranted, to the original purchaser only, to be free of defects in materials and workmanship for 12 months from the date of purchase without additional charge. The warranty does not extend to subsequent purchasers or users.

Dorian Tool will not be responsible for any amount of damage in excess of the retail purchase price of the product under any circumstances. Incidental and consequential damages are specifically excluded from coverage under this warranty. This warranty does not apply to accessories or damage to units from misuse or incorrect installation. Misuse includes, but not limited to, incorrect programming, improper maintenance, improper installation, insufficient machine ATC capability.

RETURN/REPAIR POLICY: Defective products, other than accessories, may be returned freight prepaid to Dorian Tool. Any defective product that is returned to Dorian Tool within 12 months of the date of purchase will be replaced or repaired at Dorian Tool's decision. If the unit is repaired or replaced with a new unit, the repaired or replaced unit will then be warranted under the terms of the remainder of the warranty period. The customer is responsible for the shipping charges on all returned items. During the warranty period, Dorian Tool will be responsible for the return shipping charges, if the item is found to be defective.

LIMITATIONS: This warranty covers all spare parts for 12 months. The warranty becomes null and void if someone other than a Dorian-Authorized technician repairs or attempts to repair the product. The warranty becomes null and void if the product is modified in any way.

Defects resulting from normal wear and tear (including scratches, abrasions, due to usage or exposure), accidents, damage during shipping to our service facility, alterations, unauthorized use or repair, neglect, misuse, abuse, failure to follow instructions for care and maintenance are not covered under this warranty. If your problem is not covered by this warranty, call our Technical Support Department at 979-282-2861 for general repair information and charges, if applicable. You may also contact us through our website at www.doriantool.com or email sales@doriantool.com.

TO REQUEST WARRANTY SERVICE FOR THIS PRODUCT: Contact Dorian Tool Technical Support by telephone, fax or email. We suggest that you keep the original packaging in case you need to ship the unit. When returning a product, include your name, address, phone number, dated sales receipt (or copy), and a description of the reason for return and product serial number. After repairing or replacing the unit, we will return it to you within four weeks.

WARRANTY ACTIVATION: Please complete Warranty Activation Card and mail to Dorian Tool. Dorian Tool products must be registered within 15 days of product ship date to activate this warranty. If not activated within 15 days, the warranty becomes null and void. Mail the completed registration card, along with a copy of the original sales receipt to:

ATTN: WARRANTY REGISTRATION – DORIAN TOOL
615 COUNTY ROAD 219, EAST BERNARD, TEXAS 77435
PH: 979-282-2861 TOLL FREE: 800-627-0266 FAX 979-282-2951
YOU MAY ALSO CONTACT US VIA E-MAIL AT SALES@DORIAN TOOL.COM
WARRANTY IS NON-TRANSFERABLE AND NON-REFUNDABLE.

Cut and Mail the Below Portion Back To Dorian Tool

DORIAN TOOL CNC ADJUSTABLE RIGHT ANGLE HEAD LIMITED WARRANTY Date: _____

This limited warranty program is the only one that applies to this product, and it sets forth all the responsibilities of Dorian Tool, regarding this product. There is no other warranty, other than described herein.

All Dorian Tool products must be registered within 15 days of purchase to activate this warranty. Mail the completed registration form, along with a copy of the original sales receipt to:

WARRANTY REGISTRATION DORIAN TOOL
615 County Road 219, East Bernard, Texas 77435

I have enclosed a copy of the original sales receipt.

Company _____
Address _____
City _____ State _____ Zip Code _____
Phone _____ Fax _____ E-Mail _____
Type of Business _____ No. of Employees _____

Authorized Dorian Distributor and Location Where Product Was Purchased _____

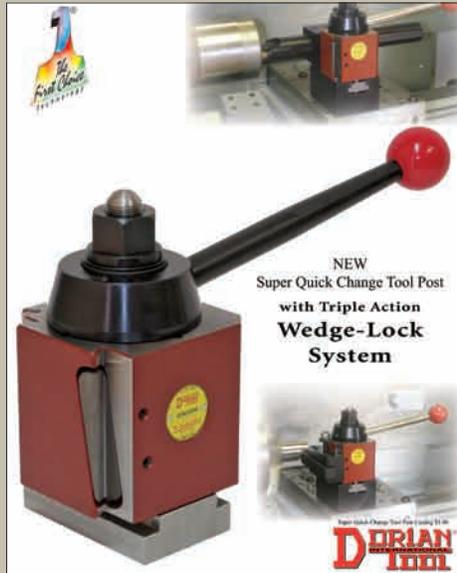
Date of Purchase _____ P.O. No. _____ Date Received _____
Dorian UPC Number _____ Serial No. _____ Description _____

Signature _____ Title _____ Date _____



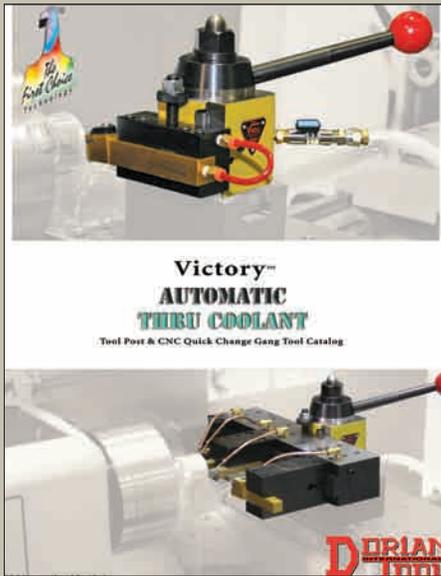
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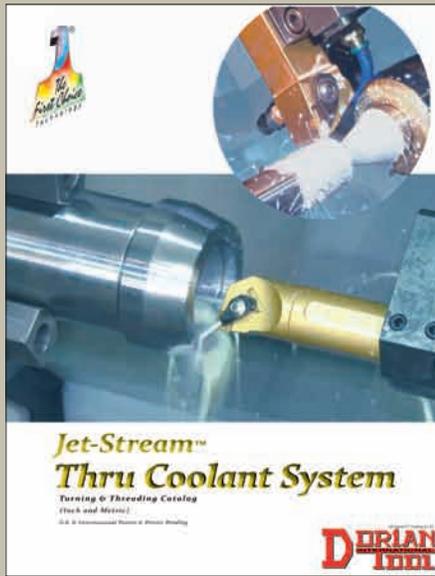
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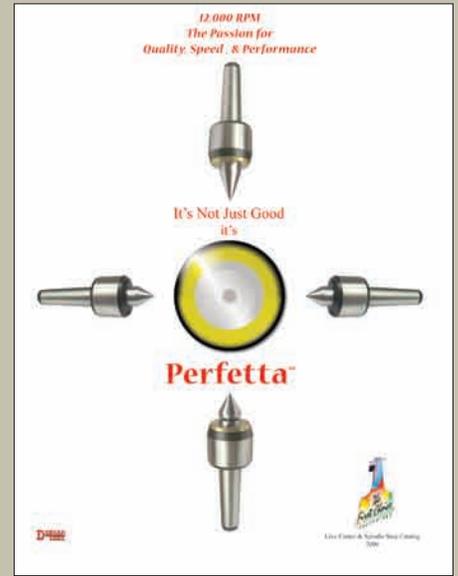
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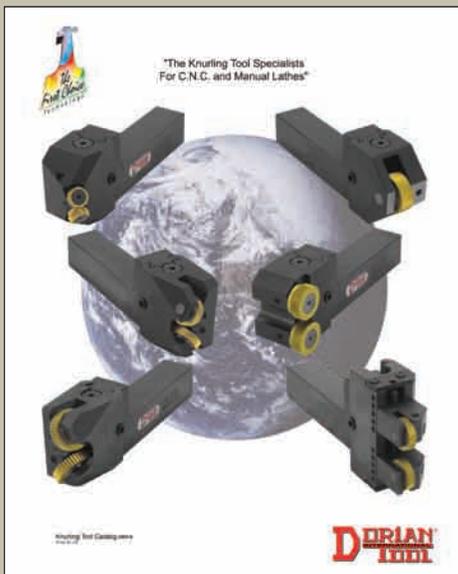
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Product Line

Super Quick Change Tool Post Catalog: Dorian Tool offers a complete line of Super Quick Change Tool post and Toolholders. The SDN tool post feature a **NEW Triple Action Wedge Style Locking System** with Zero Back Lash and precise repeatability within .0001. The SDN catalog also offers the Victory™ CNC Quick Change Gang Tool. The Victory™ CNC Quick Change Gang Tool is Designed to fully automate any programmable tool room lathe in the simplest most economical way possible.

Victory™ Automatic Thru Coolant Tool Post and Toolholders Catalog: Dorian Tool offers a complete line of Victory™ **Automatic Thru coolant** Tool post and Toolholders. The Victory™ Automatic Thru coolant Tool post feature a Triple Action Locking System with Zero Back Lash and precise repeatability within .0001. The Victory™ catalog also offers the Victory™ CNC Quick Change Gang Tool. The Victory™ CNC Quick Change Gang Tool is Designed to fully automate any programmable tool room lathe in the simplest most economical way possible.

Jet-Stream™ Tool Holders and Boring Bars Catalog: Dorian Tool International has developed the most technologically advanced turning tool system in the industry, The Jet-Stream™, **High-Pressure** Air or Liquid Coolant Thru Toolholder and Boring Bar System. The concept of the Jet-Stream™ Toolholder and Boring Bar is to provide the ability to turn inserts at higher speeds and feeds. With advanced technologies and significant research, the patented Jet-Stream™ system is designed for use in all general turning applications from heavy roughing to high speed finishing. The unique Dor-Lock clamping system provides holding security and precisely controls the velocity of the air or liquid coolant flow in one system.

Live Center Catalog: Dorian Tool introduces the Perfetta™ Live Center. These live centers, which have already been recognized throughout the rest of the industrial world as the most precise live centers ever built, are now available to the American machine tool industry. Designed for turning on a CNC lathe or for use on a CNC grinding machine, the Perfetta™ Live Center has over 50 years of proven workmanship. Where speed, precision and dependability are the requirements, these tools guarantee quality and performance.

Indexable Cutting Tool Catalog: Dorian Tool offers a complete selection of indexable cutting tools. Through much research and development, a superior product has been achieved. Our wide variety of turning, milling, cut-off, and drilling tools and inserts provide solutions for all your machining needs.

Machine Tool Accessories and Automation Products Catalog: With a full line of tool posts and holders as well as manual, electro-pneumatic, and electro-mechanical turrets, Dorian Tool has all that is needed to improve efficiency on both manual and CNC lathes. In addition, the Dorian TruJaws system makes for easy remachining of soft jaws. For the mill, Dorian also offers the right angle attachment to allow horizontal milling operations to be performed on a standard vertical mill.

Knurling Tool Catalog: Dorian Tool offers a wide range of knurling tools to cover most knurling applications. Since the introduction of Dorian's modular knurling tool system, knurling has never been easier. The knurl tools range from cutting to forming a knurling pattern. The cutting style knurl tools have revolutionized knurling. It is faster and requires less pressure to create a knurl over forming. A wide range of knurl wheel pitches are also available.

Sales Policy

Conditions of Sale: All sales are made in accordance with our standard conditions of sale, current at the time orders are accepted. Specifications and prices are subject to change without notice.

Terms of Payment: Standard payment terms for all products is (1% 10 Net 30 days) upon credit approval. Dorian reserves the right to hold shipments or to ship on a C.O.D. basis, any orders received from any purchaser whose account is delinquent. Invoices not paid timely are subject to 1.5% interest per month, not to exceed 18%. However, purchasers who default on terms agreed upon, Dorian reserves the right to add collection and/or attorney fees to the total amount of the invoice or total amount of all invoices. No order will be processed if any invoices are over 45 days old. All taxes, duties, or other expenses arising out of, or in connection with the sale of product shall be the sole liability of purchaser.

No Minimum Order: There will be a \$5.00 handling fee for orders drop shipped with a value under \$50.00 net.

Delivery Terms: F.O.B. East Bernard, Texas. All shipments are made by regular UPS, Parcel Post, or truck. Full transportation costs will be charged to the buyer. Specify shipment to be made by other than regular means of transportation.

Defective Product Claim: If within 30 days from shipping date, customer claims that product is defective and requires an immediate replacement, a distributor can issue a purchase order for a new product and return the defective product to Dorian for inspection. Upon inspection, if the product is found to be defective a credit will be issued for the replacement. If the product is not found to be defective, an invoice will be issued for the replacement. Freight to and from Dorian will be at the customer's expense.

Claims: Any claim discrepancies in shipments are to be made within 7 days of receipt of merchandise. Any in transit claim for damaged and lost goods must be made against the transportation company only. The foregoing shall constitute the sole and exclusive remedies of the customer and are in lieu of all other warranties, expressed, implied, or statutory, including but not limited to any implied warranty of merchantability or fitness.

Satisfaction Guaranteed: If you are not fully satisfied with a Dorian product, simply return it within 30 days of shipping date and you will receive full CREDIT if the merchandise is received in resalable condition.

Product Limited Warranty: Dorian extends to the purchaser for resale, use in their own business, or original equipment manufacturing, a limited warranty, that products made by DORIAN will be free from any defects in material and workmanship for one year after the date of purchase when used under normal intended applications. No other guarantee is made by this policy, nor does it apply to any product which has been altered, misused, or used in applications other than its normal intended use. Request for a Return Goods Authorization (RGA) number from Dorian and return freight pre-paid to Dorian any part or product which is determined by Dorian to be defective in material or workmanship will be repaired or replaced at Dorian's option.

Special Product Quotations: All special product quotations are valid for thirty days from the date of quotation unless otherwise specified. Orders for special products must be confirmed in writing before manufacturing can begin, along with payment for 50% of the quoted price, with the remaining 50% to be paid upon delivery of the special products. Special products and non-stock standard products cannot be canceled or returned for exchange or credit.

Cancellations: Customer may not cancel or modify any purchase order once a purchase order has been expressly accepted by Dorian, unless (a) customer has given Dorian reasonable notice to stop work, (b) customer pays for all work -in-progress and any raw materials or supplies used or consumed by Dorian in connection with the order, at the time work is stopped (or for which commitments have been made by Dorian at such time) in connection with the order (c) customer pays all costs and expenses otherwise incurred by Dorian in connection with the order, and (d) customer pays a cancellation charge of fifteen percent (15%) of the initial quoted price.

Returns: Except otherwise specified no product will be accepted for return after 90 days from the date of shipment. All returns must be pre-paid and must be accompanied by our Return Goods Authorization (RGA) number. This number must appear on the outside of the package. No return will be accepted without an RGA number. If the product is received at Dorian damaged in shipment and was not packaged properly, the product will be refused. The product must be in the original packaging, unused, in current catalog, and in sellable condition. Products may be returned for credit on account only. After 30 days, returns will be subject to a 15% restocking charge on product cost plus freight invoiced. Any product purchased on Promo or on special prices are not returnable.

Condition, terms, price and specifications are subject to change without notice. Any typographical error in any printing matter is subject to correction.



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