

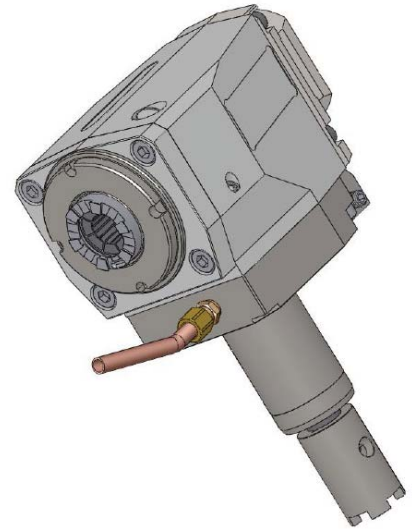
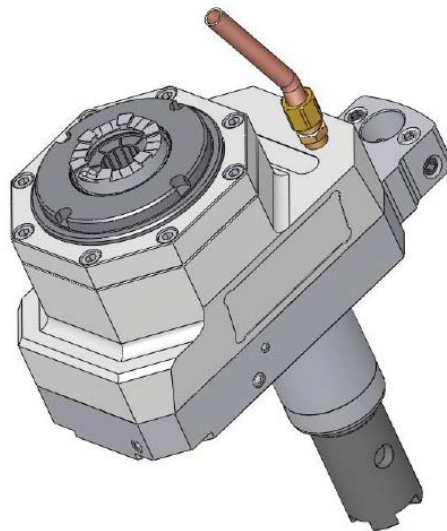
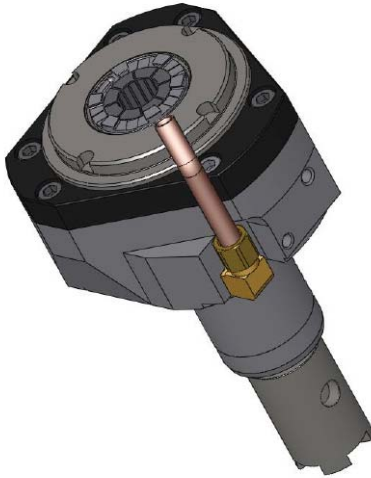
DUAL SPINDLE SERIES: DS-30

SUB-SPINDLE SERIES: TL-15, TL-25

TURNING CENTER SERIES: SL-20, SL-30, SL-40

TURNING CENTER SERIES: ST-20, ST-30

## LIVE TOOLS



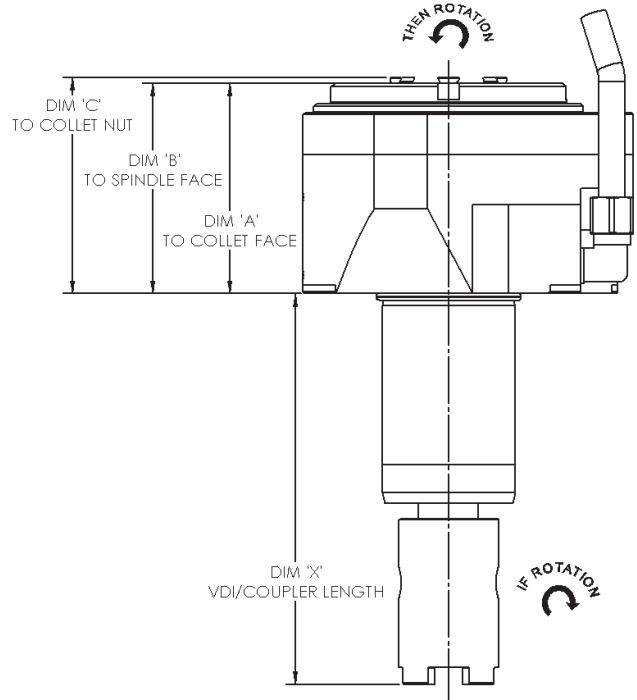
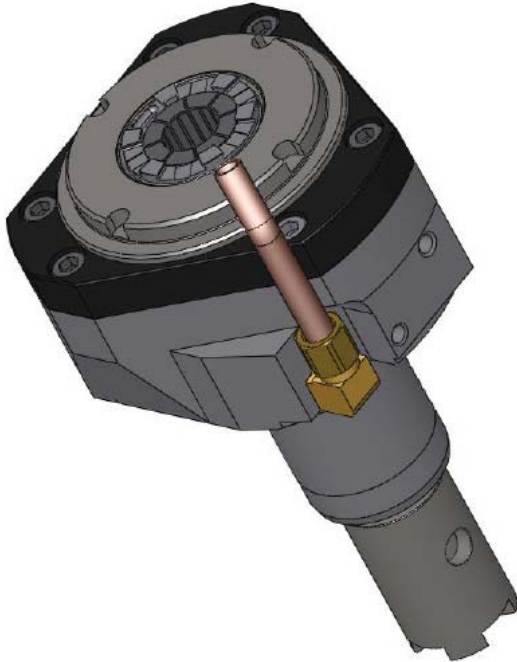
DUAL SPINDLE SERIES: **DS-30**

SUB-SPINDLE SERIES: **TL-15, TL-25**

TURNING CENTER SERIES: **SL-20, SL-30, SL-40**

TURNING CENTER SERIES: **ST-20, ST-30**

LIVE TOOLS



## STRAIGHT (AXIAL / FACE)

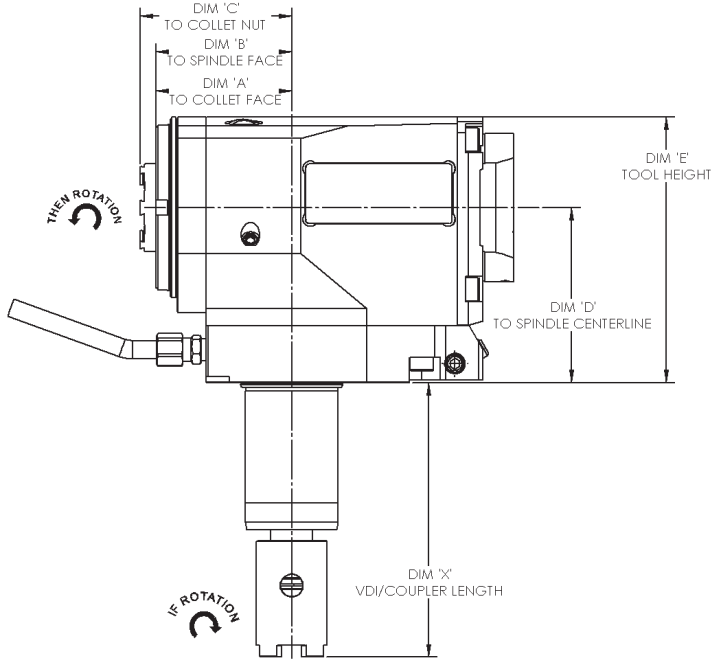
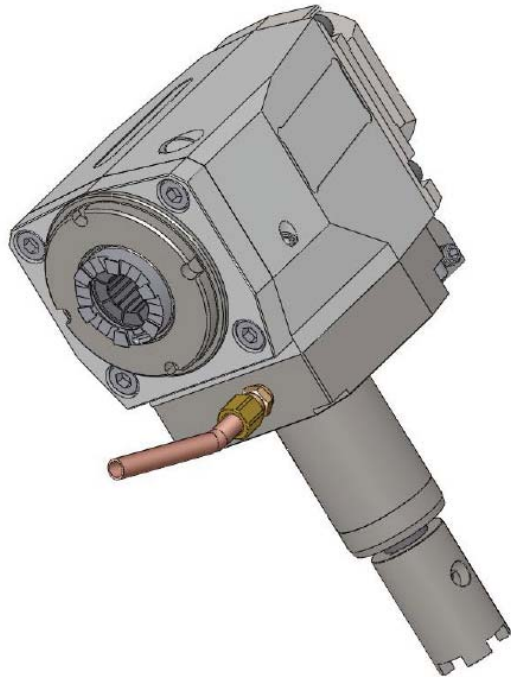
Item Number	Ratio	Spindle	Internal Coolant	A (in)	B (in)	C (in)	D (in)	E (in)	X (in)	List Price
DT10611405111	1:1	ER-32	----	2.49	2.49	2.56	---	---	4.128	\$2,000.00
DT10611405121	1:1	ER-32	1500 PSI	3.54	3.54	3.81	---	---	4.128	\$3,500.00
DT10610605111	1:1	KM-40	----	2.21	2.69	---	---	---	4.128	\$4,000.00
DT10610605121	1:1	KM-40	1500 PSI	3.27	3.75	---	---	---	4.128	\$5,500.00
DT10611405211	1:1	ER-32	----	2.49	2.49	2.56	---	---	4.628	\$2,000.00
DT10611405221	1:1	ER-32	1500 PSI	3.54	3.54	3.81	---	---	4.628	\$3,500.00
DT10610605211	1:1	KM-40	----	2.21	2.69	---	---	---	4.628	\$4,000.00
DT10610605221	1:1	KM-40	1500 PSI	3.27	3.75	---	---	---	4.628	\$5,500.00
DT10611405311	1:1	ER-32	----	2.49	2.49	2.56	---	---	5.128	\$2,000.00
DT10611405321	1:1	ER-32	1500 PSI	3.54	3.54	3.81	---	---	5.128	\$3,500.00
DT10610605311	1:1	KM-40	----	2.21	2.69	---	---	---	5.128	\$4,000.00
DT10610605321	1:1	KM-40	1500 PSI	3.27	3.75	---	---	---	5.128	\$5,500.00

DUAL SPINDLE SERIES: DS-30

SUB-SPINDLE SERIES: TL-15, TL-25

TURNING CENTER SERIES: SL-20, SL-30, SL-40

TURNING CENTER SERIES: ST-20, ST-30



LIVE TOOLS

## RIGHT-ANGLE (RADIAL / OD / SIDE)

Item Number	Ratio	Spindle	Internal Coolant	A (in)	B (in)	C (in)	D (in)	E (in)	X (in)	List Price
DT10211405111	1:1	ER-32	----	2.29	2.29	2.36	2.95	4.48	4.128	\$3,500.00
DT10211405121	1:1	ER-32	1500 PSI	2.29	2.29	2.56	2.95	4.48	4.128	\$4,500.00
DT10210605111	1:1	KM-40	----	1.45	1.94	---	2.95	4.48	4.128	\$5,500.00
DT10210605121	1:1	KM-40	1500 PSI	1.45	1.94	---	2.95	4.48	4.128	\$6,500.00
DT10211405211	1:1	ER-32	----	2.29	2.29	2.36	2.95	4.48	4.628	\$3,500.00
DT10211405221	1:1	ER-32	1500 PSI	2.29	2.29	2.56	2.95	4.48	4.628	\$4,500.00
DT10210605211	1:1	KM-40	----	1.45	1.94	---	2.95	4.48	4.628	\$5,500.00
DT10210605221	1:1	KM-40	1500 PSI	1.45	1.94	---	2.95	4.48	4.628	\$6,500.00
DT10211405311	1:1	ER-32	----	2.29	2.29	2.36	2.95	4.48	5.128	\$3,500.00
DT10211405321	1:1	ER-32	1500 PSI	2.29	2.29	2.56	2.95	4.48	5.128	\$4,500.00
DT10210605311	1:1	KM-40	----	1.45	1.94	---	2.95	4.48	5.128	\$5,500.00
DT10210605321	1:1	KM-40	1500 PSI	1.45	1.94	---	2.95	4.48	5.128	\$6,500.00
DT1022xx05xx1	1:2	*Adder for Ratio		*Dimensions same as above						+\$1,500.00
DT1024xx05xx1	2:1	*Adder for Ratio		*Dimensions same as above						+\$1,500.00



# HAAS

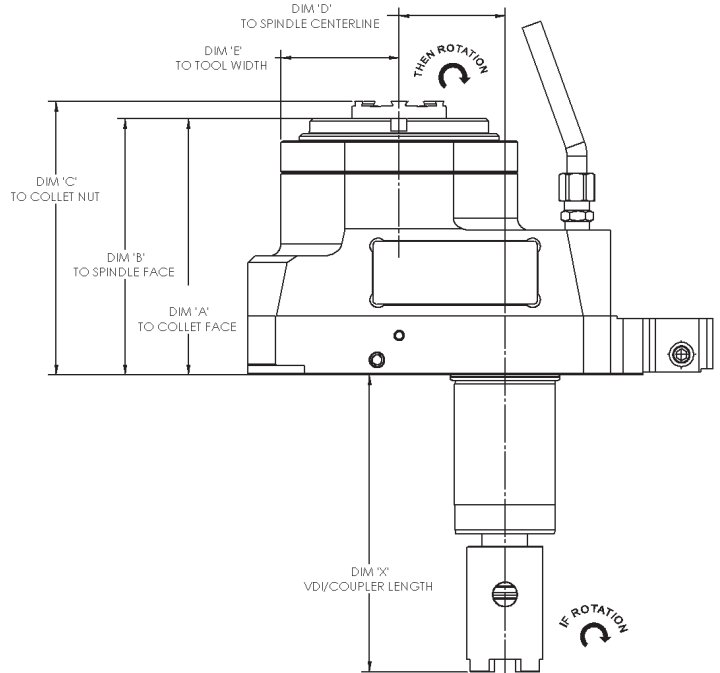
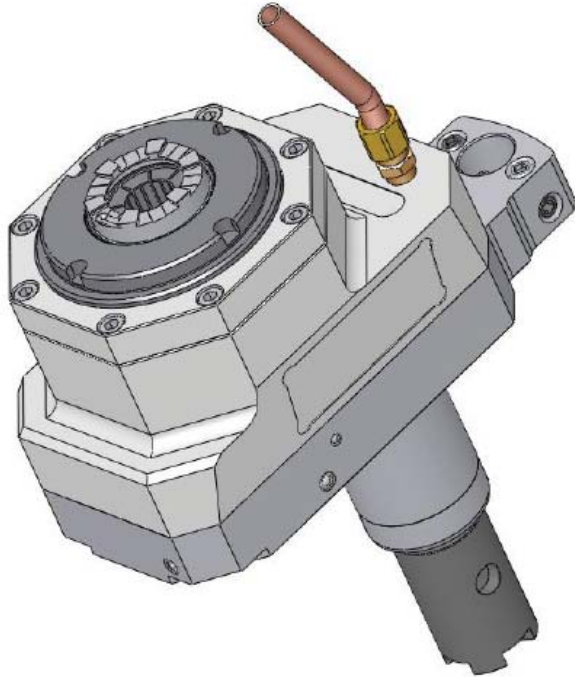
**DUAL SPINDLE SERIES: DS-30**

**SUB-SPINDLE SERIES: TL-15, TL-25**

**TURNING CENTER SERIES: SL-20, SL-30, SL-40**

**TURNING CENTER SERIES: ST-20, ST-30**

LIVE TOOLS



## STRAIGHT-OFFSET (AXIAL / FACE)

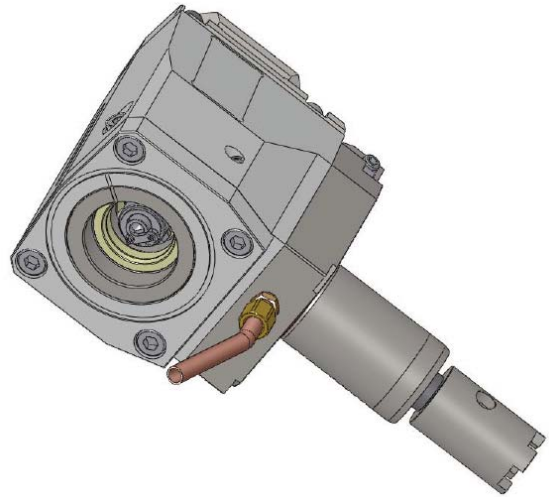
Item Number	Ratio	Spindle	Internal Coolant	A (in)	B (in)	C (in)	D (in)	E (in)	X (in)	List Price
DT10111405111	1:1	ER-32	----	4.00	4.00	4.07	1.65	1.85	4.128	\$3,500.00
DT10111405121	1:1	ER-32	1500 PSI	4.00	4.00	4.27	1.65	1.85	4.128	\$4,500.00
DT10110605111	1:1	KM-40	----	3.54	4.02	---	1.65	1.85	4.128	\$5,500.00
DT10110605121	1:1	KM-40	1500 PSI	3.54	4.02	---	1.65	1.85	4.128	\$6,500.00
DT10111405211	1:1	ER-32	----	4.00	4.00	4.07	1.65	1.85	4.628	\$3,500.00
DT10111405221	1:1	ER-32	1500 PSI	4.00	4.00	4.27	1.65	1.85	4.628	\$4,500.00
DT10110605211	1:1	KM-40	----	3.54	4.02	---	1.65	1.85	4.628	\$5,500.00
DT10110605221	1:1	KM-40	1500 PSI	3.54	4.02	---	1.65	1.85	4.628	\$6,500.00
DT10111405311	1:1	ER-32	----	4.00	4.00	4.07	1.65	1.85	5.128	\$3,500.00
DT10111405321	1:1	ER-32	1500 PSI	4.00	4.00	4.27	1.65	1.85	5.128	\$4,500.00
DT10110605311	1:1	KM-40	----	3.54	4.02	---	1.65	1.85	5.128	\$5,500.00
DT10110605321	1:1	KM-40	1500 PSI	3.54	4.02	---	1.65	1.85	5.128	\$6,500.00
DT1012xx05xx1	1:2	*Adder for Ratio		*Dimensions same as above						+\$1,500.00
DT1014xx05xx1	2:1	*Adder for Ratio		*Dimensions same as above						+\$1,500.00

DUAL SPINDLE SERIES: DS-30

SUB-SPINDLE SERIES: TL-15, TL-25

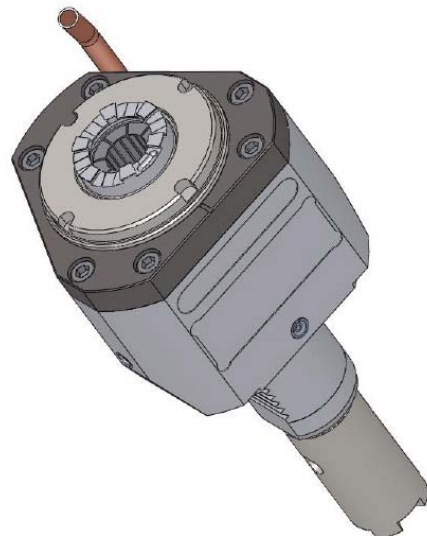
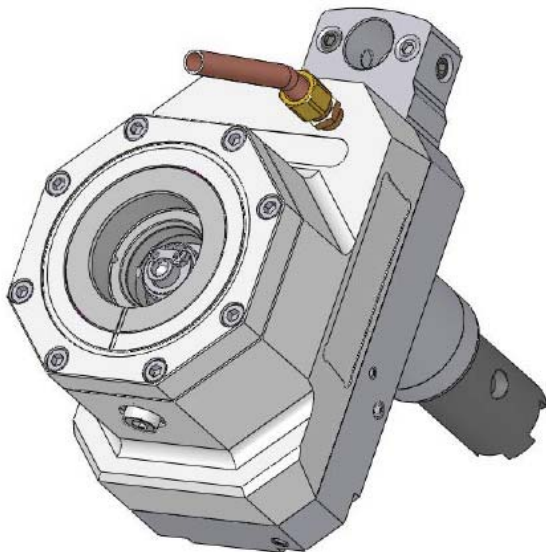
TURNING CENTER SERIES: SL-20, SL-30, SL-40

TURNING CENTER SERIES: ST-20, ST-30



LIVE TOOLS

## SPECIALS



# HAAS

VON  
RUDEN

DUAL SPINDLE SERIES: DS-30

SUB-SPINDLE SERIES: TL-15, TL-25

TURNING CENTER SERIES: SL-20, SL-30, SL-40

TURNING CENTER SERIES: ST-20, ST-30

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*Your only supplier with over 60 years of gear and bearing expertise combined with over 30 years of hydraulic expertise.*



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*Highest quality seals and o-rings for protection against external contamination. Long-life premium grease for optimum lubrication environment.*



*Recessed spindle configurations reduces the length of moment arm for longer bearing life while maximizing tool lengths.*



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*Hardened and honed right-angle spiral bevel and spur cut gears provide for long life, high strength and quiet operation.*



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*Kennametal® Modular Quick-Change Tooling System for reliable and efficient tool changes.*



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