DORIAN® INTERNATIONAL TOOL

High Performance Live Centers

Section A of 2017 Machine Tool Accessories

Precision General Purpose Live Center
60º Standard Steel Point

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Precision General Purpose Live Center
60º Extended Slim Steel Point

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Precision General Purpose Live Center
60º Extended Large Steel Point

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Heavy Duty Live Center
60º Standard Steel Point

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Heavy Duty Live Center
60º Extended Medium Slim Steel Point

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Heavy Duty Live Center
60º Extended Large Steel Point

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Heavy Duty Live Center
For Five Interchangeable Point Styles

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CNC High Speed Heavy Duty Live Center
60º Standard Steel Point or Carbide Point

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CNC High Speed Heavy Duty Live Center
60º Extended Medium Slim Steel Point or Carbide Point

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CNC High Speed Heavy Duty Live Center
60º Extended Small Slim Steel Point or Carbide Point

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CNC High Speed Heavy Duty Live Center
60º Extended Large Slim Steel Point or Carbide Point

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CNC High Speed Heavy Duty Live Center
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CNC High Speed Heavy Duty Live Center
For Five Interchangeable Point Styles

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CNC Super High Speed Heavy Duty Live Center
Six Piece Interchangeable Points SET

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CNC Super High Speed Heavy Duty Live Center
60º Standard Steel Point or Carbide Point

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CNC Super High Speed Heavy Duty Live Center
60º Extended Medium Slim Steel Point or Carbide Point

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CNC Super High Speed Heavy Duty Live Center
60º Extended Large Steel Point or Carbide Point

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Precision Spring Loaded Live Center
60º Interchangeable Steel Point with VDI Shank

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Precision Spring Loaded Live Center
60º Interchangeable Steel Point with Straight Shank

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Precision Spring Loaded Live Center
60º Extended Large Steel Point with Straight Shank

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Precision
Live Pipe Center

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CNC Modular Carbide
Bull Nose Dead Center

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CNC Integral Carbide
Bull Nose Dead Center

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Extra Heavy Duty Modular
Bull Nose Live Center

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CNC Bull Nose Extra Heavy Duty
Modular Dead Center

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Extra Heavy Duty
Modular Bull Nose Head

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Small Integral
Pipe Driver

Standard Steel Body

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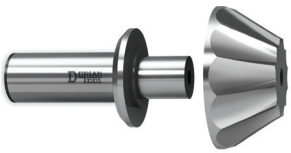
Medium Modular
Pipe Driver Spindle

Standard Steel Body



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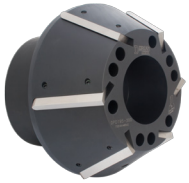
Extra Heavy Duty Positive
Bi-directional Pipe Driver

1 3/4” to 23 5/8” Pipe ID
Diameter Capacity



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CNC Steel Morse Taper Threaded
Dead Center

60° Steel Point

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CNC Steel Morse Taper
Threaded Dead Center

60° Extended Steel Point

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CNC Steel Morse Taper
Threaded Dead Center

60° Interchangeable Steel Point

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Precision CNC Steel Morse Taper
Dead Center

60° Steel Point

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Precision CNC Steel Morse Taper
Dead Center

60° Partial Carbide Point

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Precision CNC Steel Morse Taper
Half Moon Dead Center

60° Steel Point

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Precision CNC Steel Morse Taper
Half Moon Dead Center

Large 60° Carbide Point

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Precision CNC Steel Morse Taper
Dead Center

Large 60° Carbide Point

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High Speed Steel Morse Taper
Extended Dead Center

60° Carbide Point

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High Speed Steel Morse Taper
Extended Half Moon Dead Center

60° Carbide Point

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Constant Face Driver
& Driving Pins

Morse Taper

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Constant Face Driver
& Driving Pins

Straight Shank

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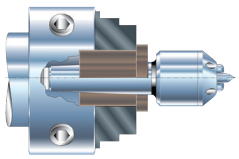
Morse Taper Bushing
for Face Driver



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PLC - Perfetta™ Live Center

PLCIP - Perfetta™ Live Center Interchangeable Point

S60 - 60º Standard Steel Point

C60 - 60º Standard Carbide Point

ESSSP - 60º Extended Small Slim Steel Point

ESSCP - 60º Extended Small Slim Carbide Point

ELSP - 60º Extended Large Steel Point

ELCP - 60° Extended Large Carbide Point

EMSSP - 60º Extended Medium Slim Steel Point

EMSCP - 60º Extended Medium Slim Carbide Point

ELSSP - 60º Extended Large Slim Steel Point

ELCSP - 60º Extended Large Slim Carbide Point

INT - 60º Interchangeable Point

MT1 - Morse Taper 1

MT2 - Morse Taper 2

MT3 - Morse Taper 3

MT4 - Morse Taper 4

MT5 - Morse Taper 5

MT6 - Morse Taper 6

MT6* - Morse Taper 6 Extra Heavy Duty

VDI-30 - VDI 30

VDI-40 - VDI 40

DIA-30 - Diameter 30mm

DIA-40 - Diameter 40mm

1. Style | **3. Point** | **5. Size**

1 3 5

PLC - PRE - S60 - INP - MT3

2 4

2. Class

PRE - Precision General Purpose

HDA - Heavy Duty Application

CNC - Precision for CNC Machining

SPA - Super Precision Application

4. Interchangeable Point

INP - 60º Interchangeable Steel Point

USP - 60º Undersized Interchangeable Steel Point

EXP - 60º Extended Interchangeable Steel Point

SBNP - Small Bull Nose Interchangeable Steel Point

MBNP - Medium Bull Nose Interchangeable Steel Point

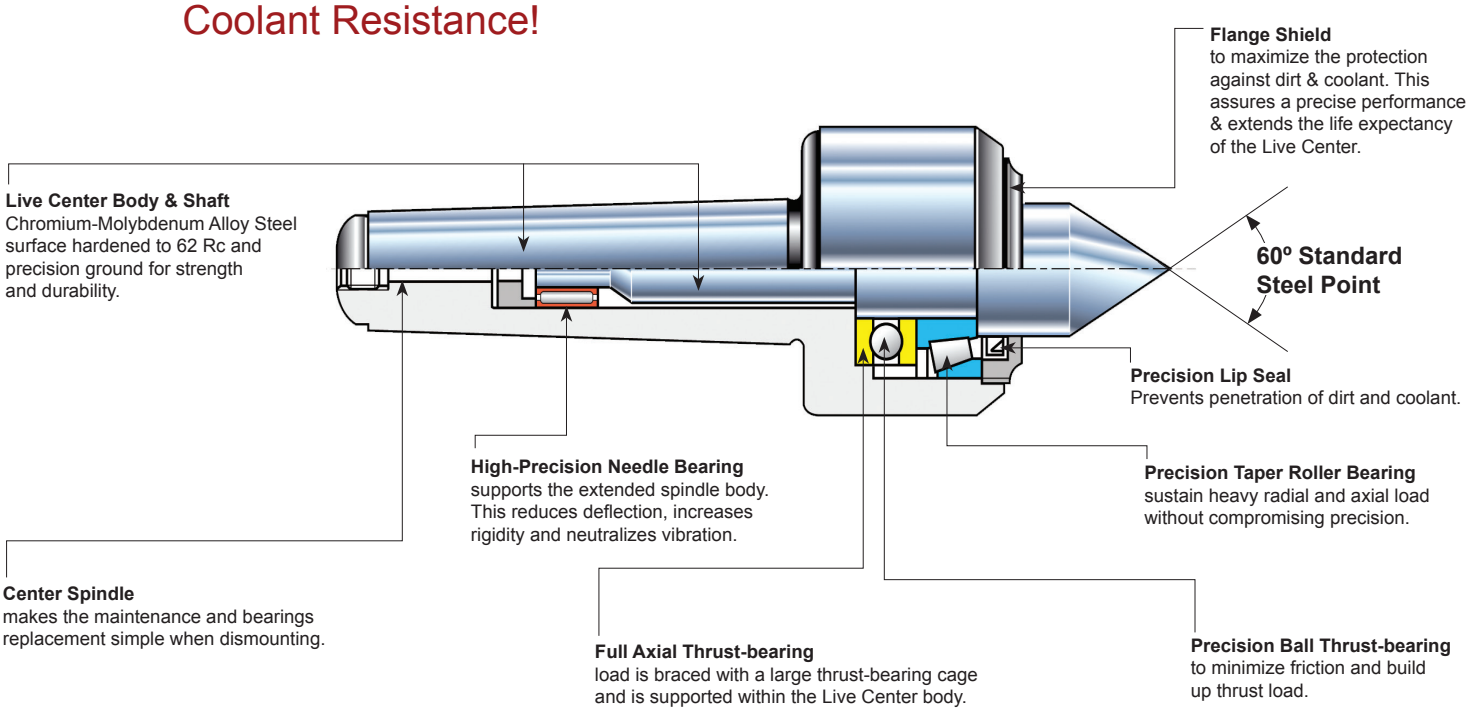
LBNP - Large Bull Nose Interchangeable Steel Point

FCUP - Female Cup Interchangeable Steel Point

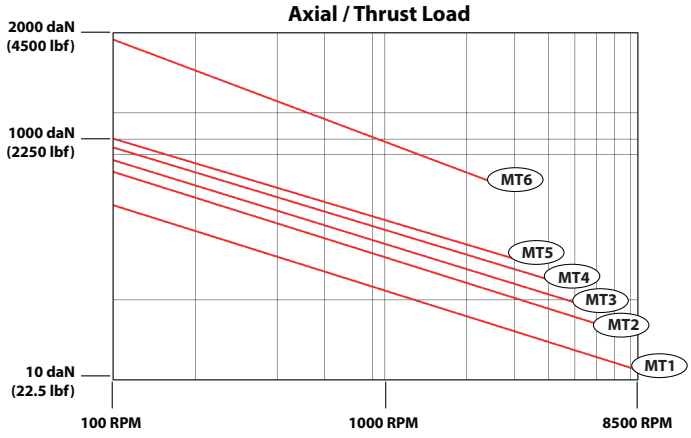
Precision General Purpose Live Center with 60º Standard Steel Point	T.I.R. 0.0001

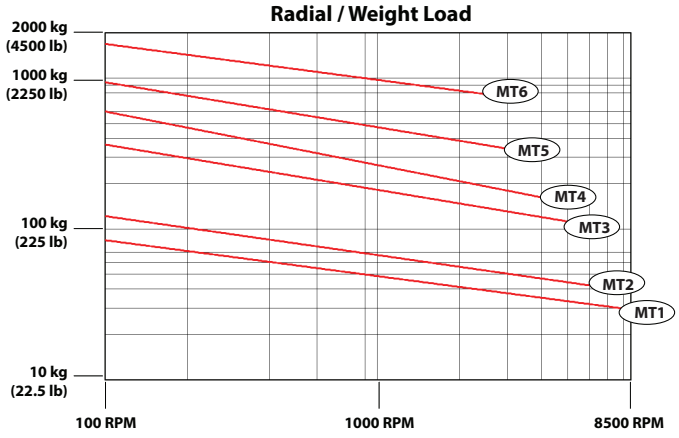
Features	Application	Suggested Lathe
• Precise Concentricity T.I.R. 0.0001 • High Speed Precision Bearings • Three Permanently Lubricated Bearings • Chromium-Molybdenum Alloy Steel • Surface Heat Treated to 62 Rc and Precision Ground	• Finishing to Light Roughing • Precision Turning • Medium Turning Speed • General Turning Application • Light to Medium Workpiece	• Manual Lathes • Small CNC Machine Center

Double Shield High Pressure Coolant Resistance!



Axial / Thrust and Radial / Weight Load

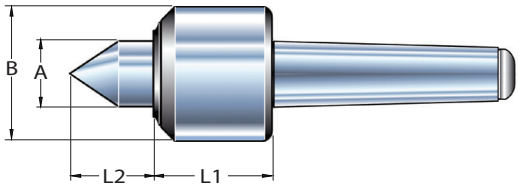




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For Precision
General Turning

Precision General Purpose Live Center with 60º Standard Steel Point



60º Standard Steel Point

UPC 733101-	Description	System	A	B	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48200	PLC-PRE-S60-MT1	in	0.63	1.49	1.45	0.79	MT1	1.10	8500	110	365
		mm	16	38	37	20	MT1	0.5	8500	50	166
48201	PLC-PRE-S60-MT2	in	0.87	1.89	1.65	0.98	MT2	2.00	6000	220	792
		mm	22	48	42	25	MT2	0.9	6000	100	360
48202	PLC-PRE-S60-MT3	in	0.87	2.17	1.69	1.06	MT3	2.20	5000	572	1144
		mm	22	55	43	27	MT3	1.0	5000	260	520
48203	PLC-PRE-S60-MT4	in	1.14	2.40	2.00	1.49	MT4	3.50	4000	1078	1320
		mm	29	61	51	38	MT4	1.6	4000	490	600
48204	PLC-PRE-S60-MT5	in	1.49	3.15	2.16	1.77	MT5	7.7	3000	1672	1430
		mm	38	80	55	45	MT5	3.5	3000	760	650
48205	PLC-PRE-S60-MT6	in	1.65	3.70	2.67	2.00	MT6	17.6	2500	3388	3300
		mm	42	94	68	51	MT6	8.0	2500	1540	1500

Precision General Purpose Live Center with 60º Extended Medium Slim Steel Point

T.I.R. 0.0001

Features

- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

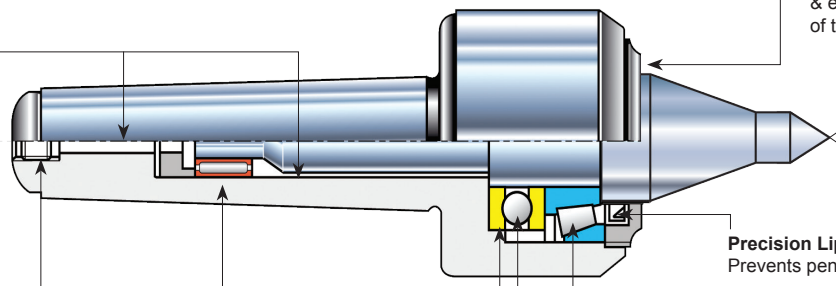
Application

- Finishing to Light Roughing
- Precision Turning
- Medium Turning Speed
- General Turning Application
- Light to Medium Workpiece

Suggested Lathe

- Manual Lathes
- Small CNC Machine Center

Double Shield High Pressure Coolant Resistance!



Flange Shield
to maximize the protection against dirt & coolant. This assures a precise performance & extends the life expectancy of the Live Center.

Live Center Body & Shaft
Chromium-Molybdenum Alloy Steel surface hardened to 62 Rc and precision ground for strength and durability.

60º Extended Medium Slim Point

Precision Lip Seal
Prevents penetration of dirt and coolant.

High-Precision Needle Bearing
supports the extended spindle body. This reduces deflection, increases rigidity and neutralizes vibration.

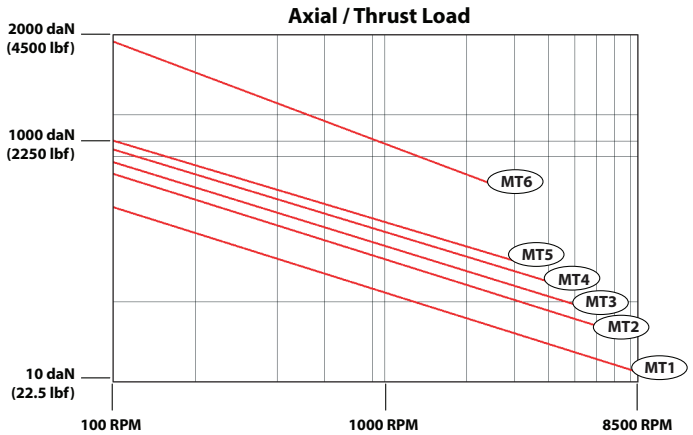
Precision Taper Roller Bearing
sustains heavy radial and axial loads without compromising precision.

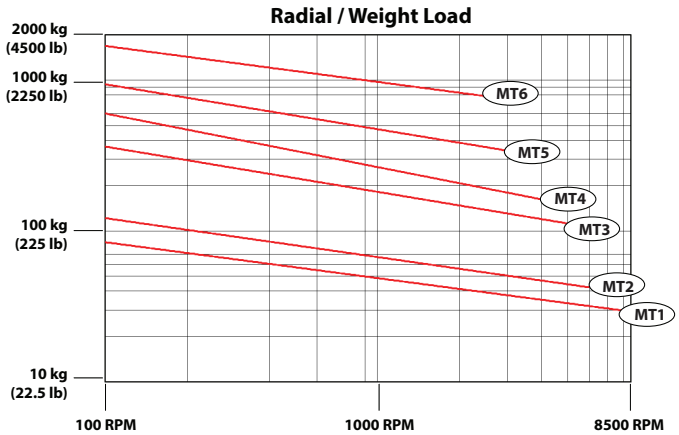
Center Spindle
makes the maintenance and bearings replacement simple when dismounting.

Full Axial Thrust-bearing
load is braced with a large thrust-bearing cage and is supported within the Live Center body.

Precision Ball Thrust-bearing
to minimize friction and build up thrust load.

Axial / Thrust and Radial / Weight Load

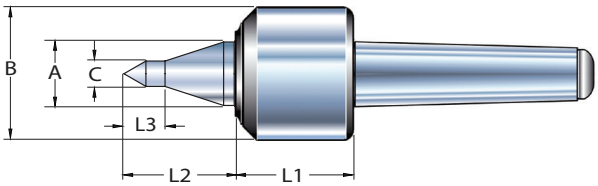




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

High Clearance
For General Turning

Precision General Purpose Live Center with 60º Extended Medium Slim Steel Point



60º Extended Medium Slim Steel Point

UPC 733101-	Description	System	A	B	C	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/ (daN)
48265	PLC-PRE-EMSSP-MT1	in	0.63	1.49	0.23	1.45	0.98	0.35	MT1	1.10	8500	110	365
		mm	16	38	6	37	25	9	MT1	0.5	8500	50	166
48266	PLC-PRE-EMSSP-MT2	in	0.87	1.89	0.31	1.65	1.26	0.43	MT2	2.00	6000	220	792
		mm	22	48	8	42	32	11	MT2	0.9	6000	100	360
48267	PLC-PRE-EMSSP-MT3	in	0.87	2.17	0.39	1.69	1.57	0.59	MT3	2.20	5000	572	1144
		mm	22	55	10	43	40	15	MT3	1.0	5000	260	520
48268	PLC-PRE-EMSSP-MT4	in	1.14	2.40	0.47	2.00	1.97	0.62	MT4	3.50	4000	1078	1320
		mm	29	61	12	51	50	16	MT4	1.6	4000	490	600

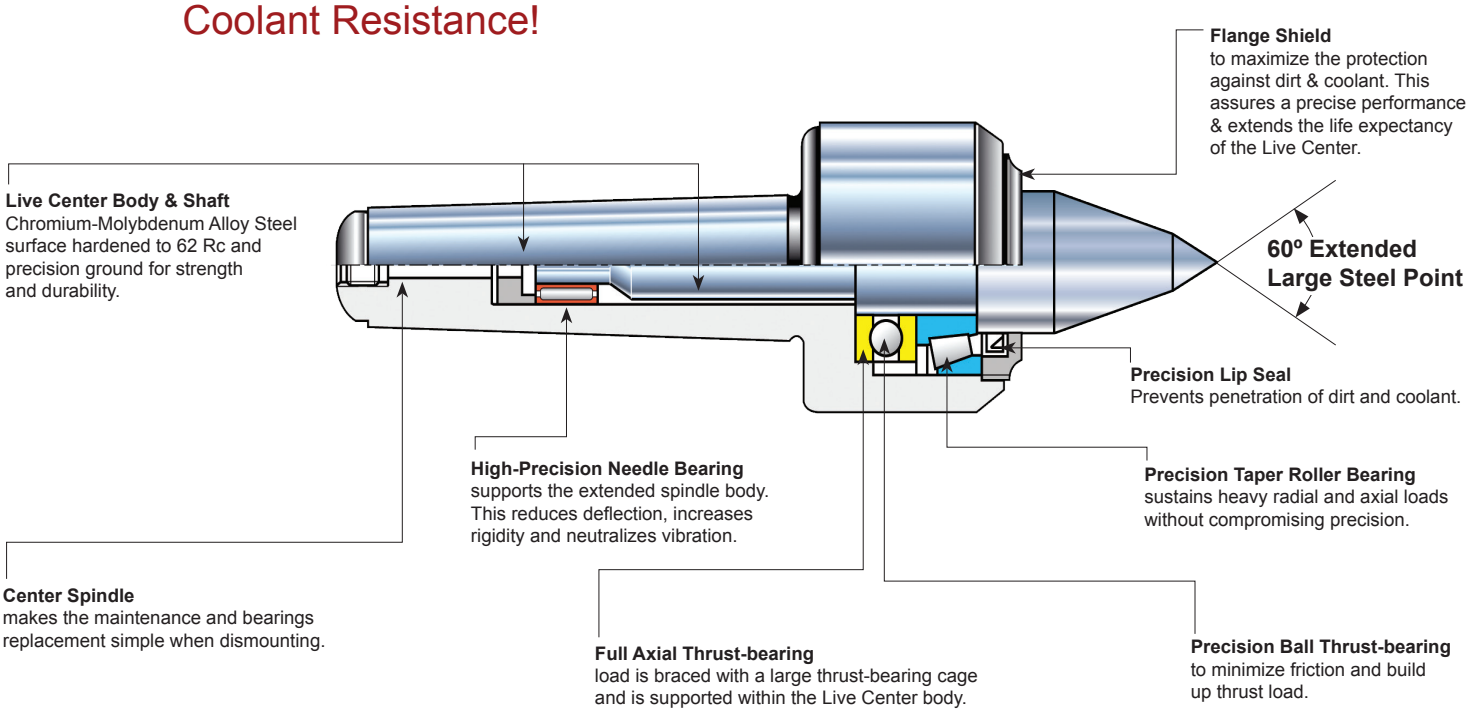
Precision General Purpose Live Center with 60º Extended Large Steel Point — T.I.R. 0.0001

Features
- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

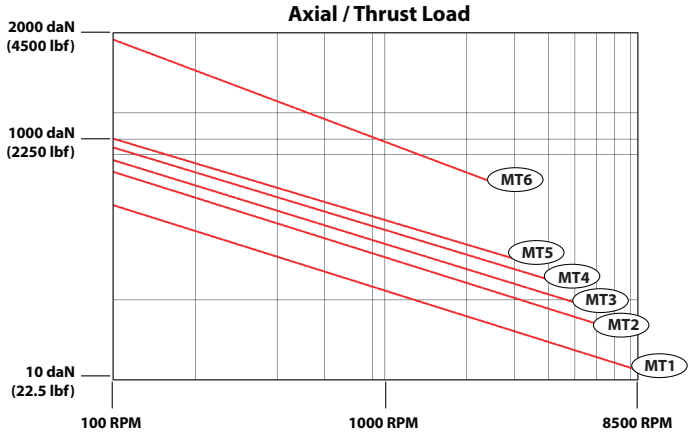
Application
- Finishing to Light Roughing
- Precision Turning
- Medium Turning Speed
- General Turning Application
- Light to Medium Workpiece

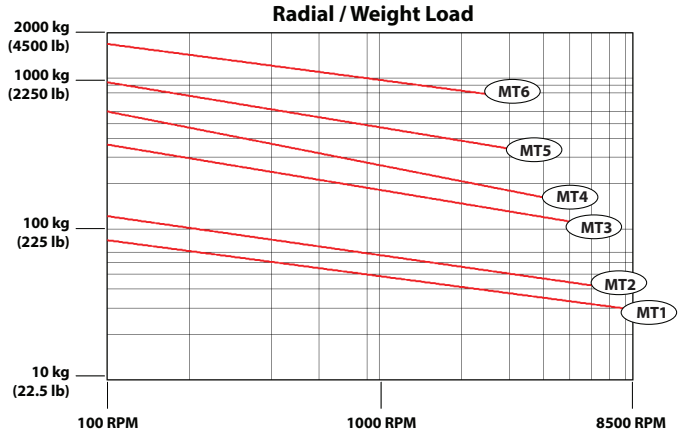
Suggested Lathe
- Manual Lathes
- Small CNC Machine Center

Double Shield High Pressure Coolant Resistance!



Axial / Thrust and Radial / Weight Load

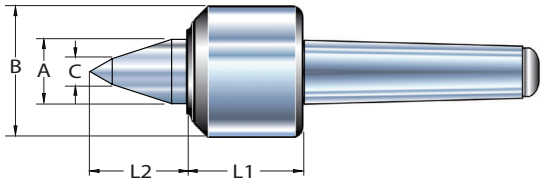




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

High Clearance
For Precision General Turning

Precision General Purpose Live Center with 60º Extended Large Steel Point



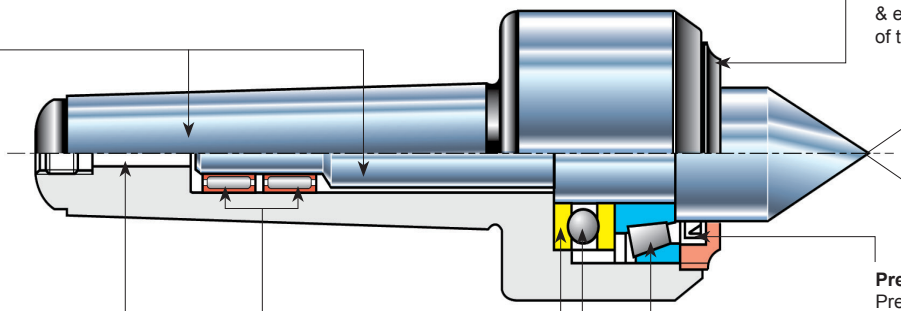
60º Extended Large Steel Point

UPC 733101-	Description	System	A	B	C	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48269	PLC-PRE-ELSP-MT3	in	0.87	2.17	0.23	1.69	1.57	MT3	2.20	5000	572	1144
		mm	22	55	6	43	40	MT3	1.0	5000	260	520
48270	PLC-PRE-ELSP-MT4	in	1.14	2.40	0.31	2.00	1.97	MT4	3.50	4000	1078	1320
		mm	29	61	8	51	50	MT4	1.6	4000	490	600
48271	PLC-PRE-ELSP-MT5	in	1.49	3.15	0.47	2.16	2.68	MT5	7.7	3000	1672	1430
		mm	38	80	12	55	68	MT5	3.5	3000	760	650
48272	PLC-PRE-ELSP-MT6	in	1.65	3.70	0.63	2.67	2.76	MT6	17.6	2500	3388	3300
		mm	42	94	16	68	70	MT6	8.0	2500	1540	1500

Heavy Duty Live Center with 60° Standard Steel Point	T.I.R. 0.0001

Features	Application	Suggested Lathe
• Precise Concentricity T.I.R. 0.0001 • Heavy Duty Precision Bearings • Four Permanently Lubricated Bearings • Chromium-Molybdenum Alloy Steel • Surface Heat Treated to 62 Rc and Precision Ground	• Heavy Roughing & Precision Finishing • Precision Turning • Medium Turning Speed • High Performance Turning Application • Medium to Heavy Workpiece	• Manual Lathes • Heavy Duty Oil Country Lathes • All types of CNC Machine Centers

Double Shield High Pressure Coolant Resistance!



Flange Shield
to maximize the protection against dirt & coolant. This assures a precise performance & extends the life expectancy of the Live Center.

Live Center Body & Shaft
Chromium-Molybdenum Alloy Steel surface hardened to 62 Rc and precision ground for strength and durability.

60° Standard Steel Point

Precision Lip Seal
Prevents penetration of dirt and coolant.

High-Precision Double Needle Bearings
support the extended spindle body. This reduces deflection, increases rigidity and neutralize vibration.

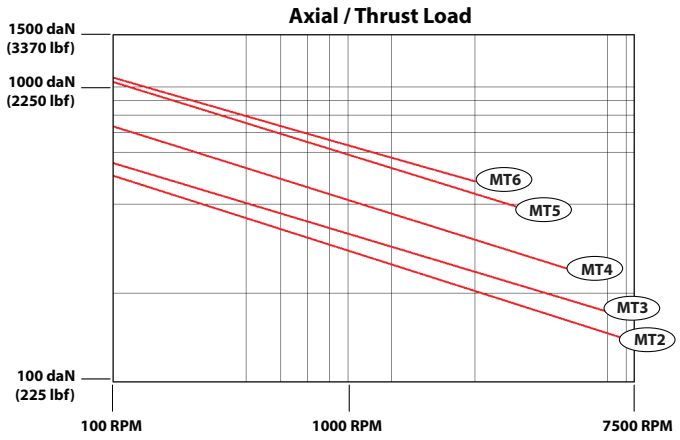
Precision Taper Roller Bearing
will sustain heavy radial and axial load without compromising precision.

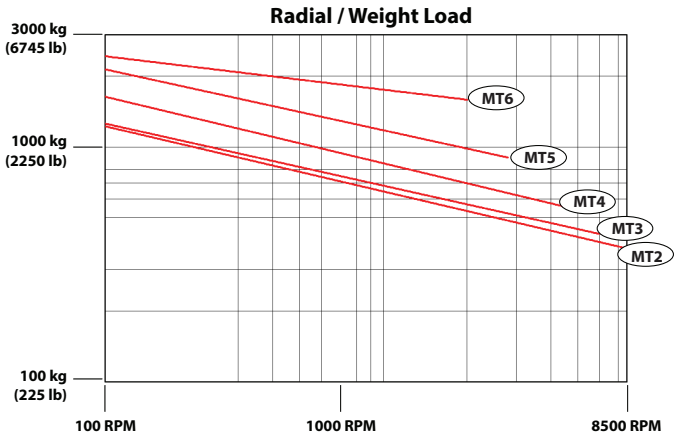
Center Spindle
makes the maintenance and bearings replacement simple when dismounting.

Full Axial Thrust-bearing
load is braced with a large thrust-bearing cage and is supported within the Live Center body.

Precision Ball Thrust-bearing
to minimize friction and build up thrust load.

Axial / Thrust and Radial / Weight Load

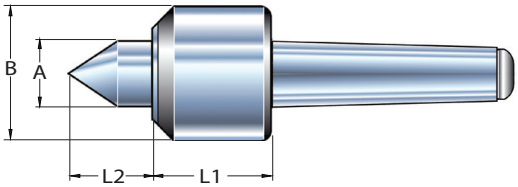




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For High Performance
Heavy Duty Turning

Heavy Duty Live Center with 60º Standard Steel Point



60º Standard Steel Point

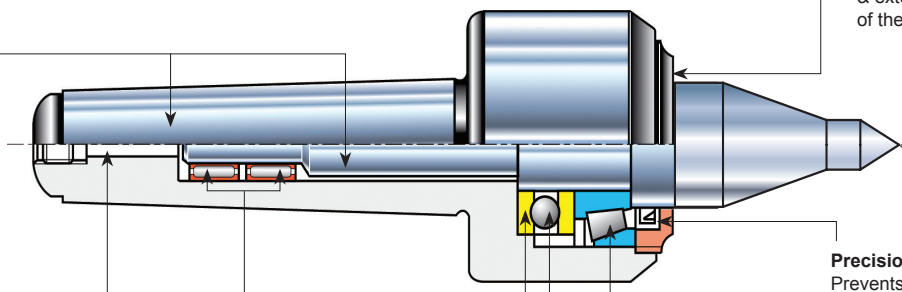
UPC 733101-	Description	System	A	B	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48206	PLC-HDA-S60-MT2	in	0.87	2.01	1.69	0.99	MT2	1.98	7500	506	1012
		mm	22	51	43	25	MT2	0.9	7500	230	460
48207	PLC-HDA-S60-MT3	in	0.87	2.17	1.69	1.10	MT3	2.20	6000	2090	1144
		mm	22	55	43	28	MT3	1.0	6000	950	520
48208	PLC-HDA-S60-MT4	in	1.14	2.40	2.01	1.50	MT4	3.53	4500	3300	1320
		mm	29	61	51	38	MT4	1.6	4500	1500	600
48209	PLC-HDA-S60-MT5	in	1.50	3.15	2.32	1.85	MT5	7.70	2800	4400	2640
		mm	38	80	59	47	MT5	3.5	2800	2000	1200
48210	PLC-HDA-S60-MT6	in	1.65	4.26	3.47	2.17	MT6	22.0	2000	10560	3300
		mm	42	108	88	55	MT6	10.0	2000	4800	1500
48211	PLC-HDA-S60-MT6S	in	2.36	5.44	4.57	2.40	MT6S	26.4	1700	19800	6600
		mm	60	138	116	61	MT6S	12.0	1700	9000	3000
48212	PLC-HDA-S60-M80	in	2.44	5.75	4.57	2.96	M80*	39.6	1100	19800	6600
		mm	62	146	116	75	M80*	18.0	1100	9000	3000
48213	PLC-HDA-S60-M100	in	3.07	7.01	5.28	3.06	M100*	85.8	900	29700	11000
		mm	78	178	134	77.5	M100*	39.0	900	13500	5000

*Call for details.

Heavy Duty Live Center with 60° Extended Medium Slim Steel Point	T.I.R. 0.0001

Features	Application	Suggested Lathe
• Precise Concentricity T.I.R. 0.0001 • Heavy Duty Precision Bearings • Four Permanently Lubricated Bearings • Chromium-Molybdenum Alloy Steel • Surface Heat Treated to 62 Rc and Precision Ground	• Heavy Roughing & Precision Finishing • Precision Turning • Medium Turning Speed • High Performance Turning Application • Medium to Heavy Workpiece	• Manual Lathes • Heavy Duty Oil Country Lathes • All types of CNC Machine Centers

Double Shield High Pressure Coolant Resistance!



Flange Shield
to maximize the protection against dirt & coolant. This assures a precise performance & extends the life expectancy of the Live Center.

Live Center Body & Shaft
Chromium-Molybdenum Alloy Steel surface hardened to 62 Rc and precision ground for strength and durability.

60° Extended Medium Slim

Precision Lip Seal
Prevents penetration of dirt and coolant.

High-Precision Double Needle Bearings
support the extended spindle body. This reduces deflection, increases rigidity and neutralize vibration.

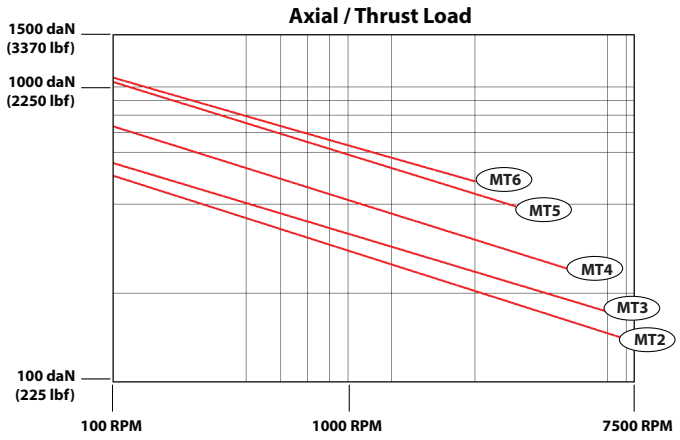
Precision Taper Roller Bearing
will sustain heavy radial and axial load without compromising precision.

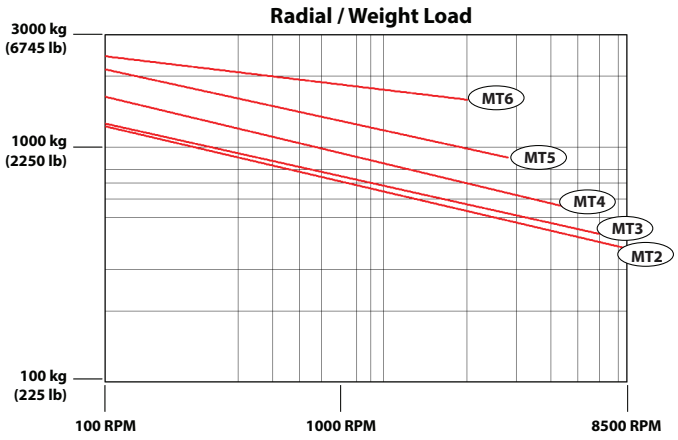
Center Spindle
makes the maintenance and bearings replacement simple when dismounting.

Full Axial Thrust-bearing
load is braced with a large thrust-bearing cage and is supported within the Live Center body.

Precision Ball Thrust-bearing
to minimize friction and build up thrust load.

Axial / Thrust and Radial / Weight Load

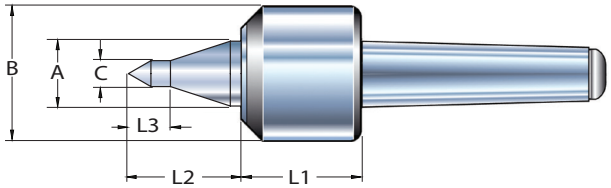




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

High Clearance
For High Performance
Heavy Duty Turning

Heavy Duty Live Center with 60º Extended Medium Slim Steel Point



60º Extended Medium Slim Steel Point

UPC 733101-	Description	System	A	B	C	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/ (daN)
48273	PLC-HDA-EMSSP-MT3	in	0.87	2.17	0.39	1.69	1.57	0.59	MT3	2.20	6000	2090	1144
		mm	22	55	10	43	40	15	MT3	1.0	6000	950	520
48274	PLC-HDA-EMSSP-MT4	in	1.14	2.40	0.47	2.01	1.97	0.62	MT4	3.53	4500	3300	1320
		mm	29	61	12	51	50	16	MT4	1.6	4500	1500	600
48275	PLC-HDA-EMSSP-MT5	in	1.50	3.15	0.62	2.32	2.68	0.70	MT5	7.70	2800	4400	2640
		mm	38	80	16	59	68	18	MT5	3.5	2800	2000	1200

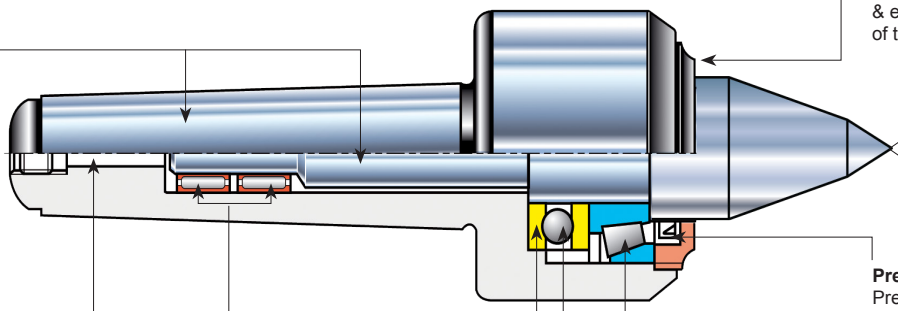
Heavy Duty Live Center with 60° Extended Large Steel Point | T.I.R. 0.0001

Features
- Precise Concentricity T.I.R. 0.0001
- Heavy Duty Precision Bearings
- Four Permanently Lubricated Bearings
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

Application
- Heavy Roughing & Precision Finishing
- Precision Turning
- Medium Turning Speed
- High Performance Turning Application
- Medium to Heavy Workpiece

Suggested Lathe
- Manual Lathes
- Heavy Duty Oil Country Lathes
- All types of CNC Machine Centers

Double Shield High Pressure Coolant Resistance!



Flange Shield
to maximize the protection against dirt & coolant. This assures a precise performance & extends the life expectancy of the Live Center.

Live Center Body & Shaft
Chromium-Molybdenum Alloy Steel surface hardened to 62 Rc and precision ground for strength and durability.

60° Extended Large Point

Precision Lip Seal
Prevents penetration of dirt and coolant.

High-Precision Double Needle Bearings
support the extended spindle body. This reduces deflection, increases rigidity and neutralize vibration.

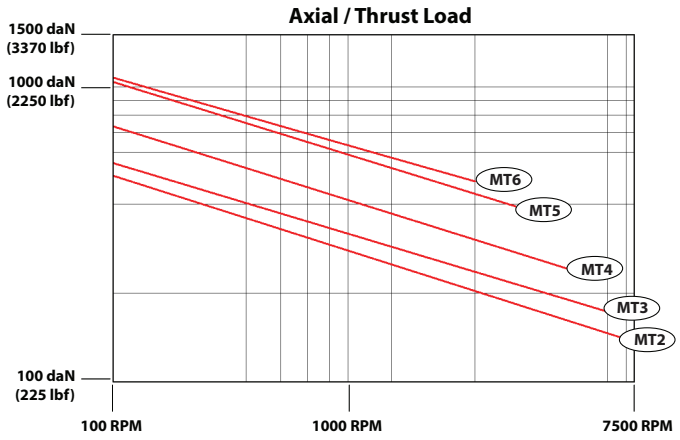
Precision Taper Roller Bearing
will sustain heavy radial and axial load without compromising precision.

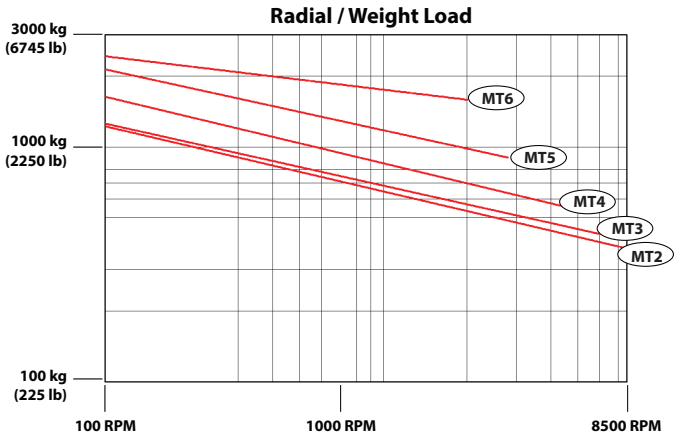
Center Spindle
makes the maintenance and bearings replacement simple when dismounting.

Full Axial Thrust-bearing
load is braced with a large thrust-bearing cage and is supported within the Live Center body.

Precision Ball Thrust-bearing
to minimize friction and build up thrust load.

Axial / Thrust and Radial / Weight Load

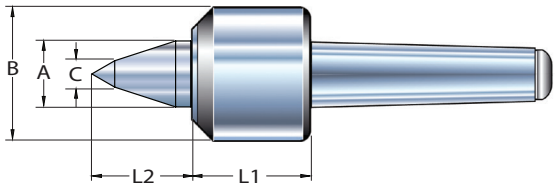




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

High Clearance Rigidity For High Performance Heavy Duty Turning

Heavy Duty Live Center with 60º Extended Large Steel Point



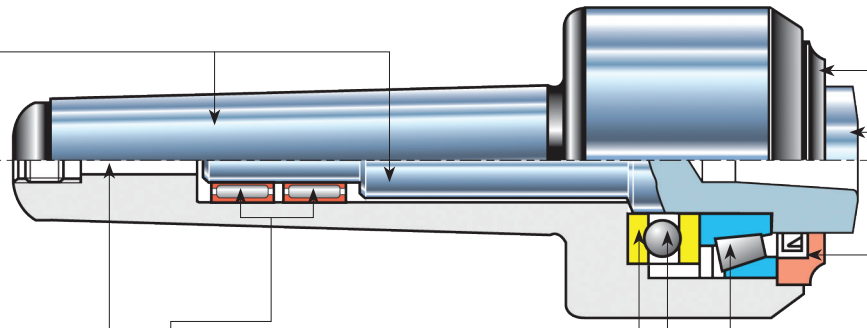
60º Extended Large Steel Point

UPC 733101-	Description	System	A	B	C	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48277	PLC-HDA-ELSP-MT3	in	0.87	2.17	0.23	1.69	1.57	MT3	2.20	6000	2090	1144
		mm	22	55	6	43	40	MT3	1.0	6000	950	520
48278	PLC-HDA-ELSP-MT4	in	1.14	2.40	0.31	2.01	1.97	MT4	3.53	4500	3300	1320
		mm	29	61	8	51	50	MT4	1.6	4500	1500	600
48279	PLC-HDA-ELSP-MT5	in	1.50	3.15	0.47	2.32	2.68	MT5	7.70	2800	4400	2640
		mm	38	80	12	59	68	MT5	3.5	2800	2000	1200
48280	PLC-HDA-ELSP-MT6	in	1.65	4.26	0.63	3.47	2.76	MT6	22.0	2000	10560	3300
		mm	42	108	16	88	70	MT6	10.0	2000	4800	1500

Heavy Duty Live Center for Interchangeable Points	T.I.R. 0.0001

Features	Application	Suggested Lathe
• Precise Concentricity T.I.R. 0.0001 • Heavy Duty Precision Bearings • Four Permanently Lubricated Bearings • Chromium-Molybdenum Alloy Steel • Surface Heat Treated to 62 Rc and Precision Ground	• Heavy Roughing & Precision Finishing • Precision Turning • Medium Turning Speed • High Performance Turning Application • Medium to Heavy Workpiece	• Manual Lathes • Heavy Duty Oil Country Lathes • All types of CNC Machine Centers

Double Shield High Pressure Coolant Resistance!



Flange Shield
to maximize the protection against dirt & coolant. This assures a precise performance & extends the life expectancy of the Live Center.

Live Center Body & Shaft
Chromium-Molybdenum Alloy Steel surface hardened to 62 Rc and precision ground for strength and durability.

Precision Ground Locking Female Taper
is Precision Ground with .00005 T.I.R.

Precision Lip Seal
Prevents penetration of dirt and coolant.

High-Precision Double Needle Bearings
support the extended spindle body. This reduces deflection, increases rigidity and neutralize vibration.

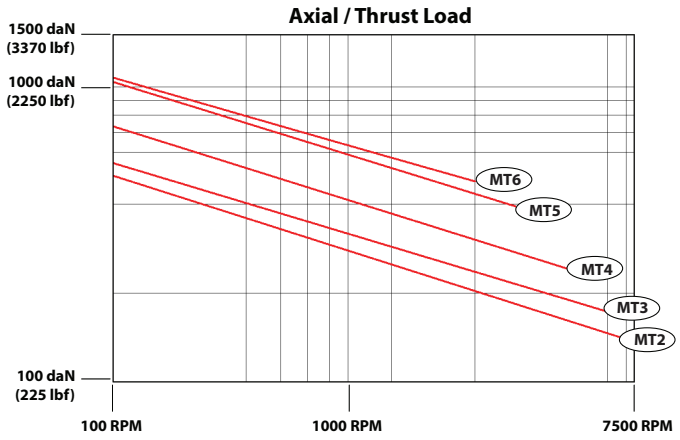
Precision Taper Roller Bearing
will sustain heavy radial and axial load without compromising precision.

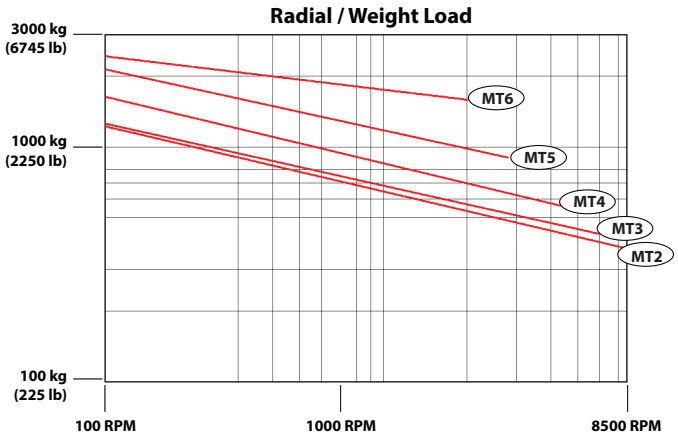
Center Spindle
makes the maintenance and bearings replacement simple when dismounting.

Full Axial Thrust-bearing
load is braced with a large thrust-bearing cage and is supported within the Live Center body.

Precision Ball Thrust-bearing
to minimize friction and build up thrust load.

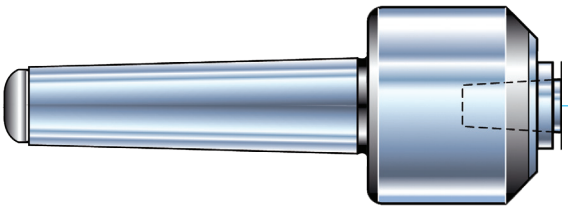
Axial / Thrust and Radial / Weight Load



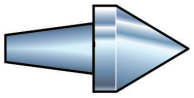


Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For High Performance Heavy Duty Turning

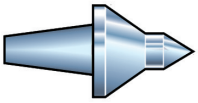


Precision Ground Taper for Interchangeability & Accurate Repeatability!

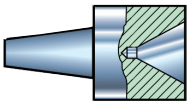


INP — **60º Steel Point** (Supplied)

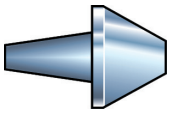
EXP — **Extended Point** (Sold Separately)



USP — **Undersized Point** (Sold Separately)

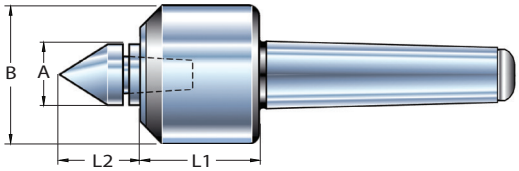


FCUP — **Female Cup** (Sold Separately)



BNP — **Bull Nose Point** (Sold Separately, Small, Medium & Large Diameter)

Heavy Duty Live Center for Interchangeable Points



For Five Interchangeable Points

UPC 733101-	Description	System	A	B	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48214	PLC-HDA-INT-MT2	in	0.99	2.01	1.69	1.38	MT2	1.98	7500	506	1012
		mm	25	51	43	35	MT2	0.9	7500	230	460
48215	PLC-HDA-INT-MT3	in	0.99	2.17	1.69	1.42	MT3	2.20	6000	2090	1144
		mm	25	55	43	36	MT3	1.0	6000	950	520
48216	PLC-HDA-INT-MT4	in	1.14	2.40	2.01	1.58	MT4	3.53	4500	3300	1320
		mm	29	61	51	40	MT4	1.6	4500	1500	600
48217	PLC-HDA-INT-MT5	in	1.38	3.15	2.32	1.89	MT5	7.70	2800	4400	2640
		mm	35	80	59	48	MT5	3.5	2800	2000	1200
48218	PLC-HDA-INT-MT6	in	1.65	4.26	3.47	2.17	MT6	22.0	2000	10560	3300
		mm	42	108	88	55	MT6	10.0	2000	4800	1500

Supplied with (1) INP 60º Interchangeable Point (see Page A-48 - M49 for all interchangeable Points). For Center Point Extraction Tool (NOT Supplied) see Page A-49.

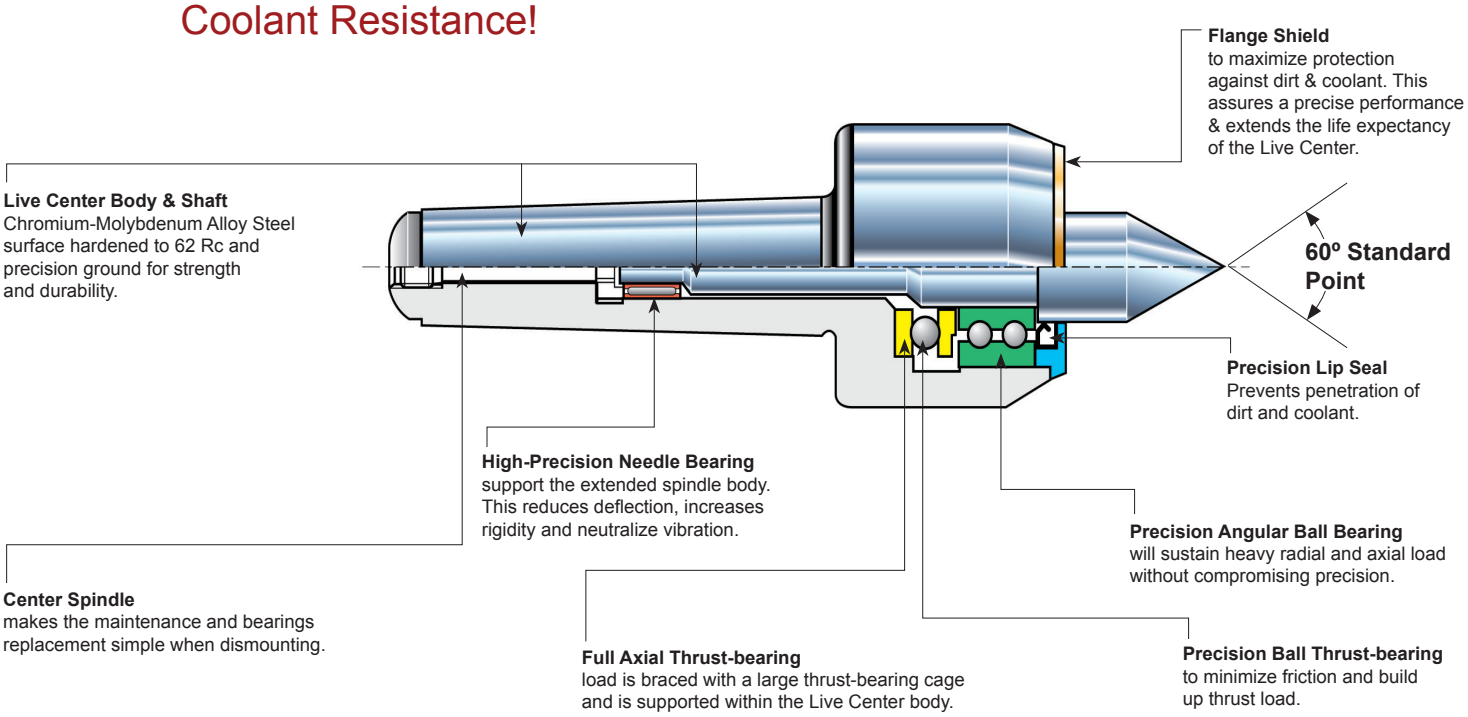
CNC High Speed Heavy Duty Live Center with 60° Standard Steel or Carbide Point | T.I.R. 0.0001

Features
- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Sealed with Lip Seal and Locked with a Flange Shield
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

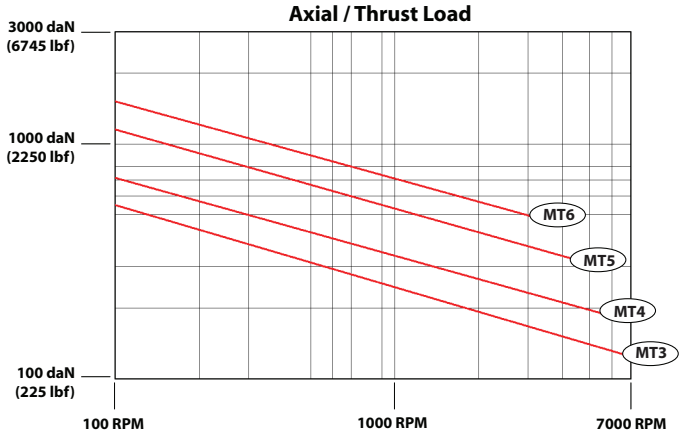
Application
- Roughing & Precision Finishing
- High Precision Turning
- Medium to High Turning Speed
- High Performance CNC Turning Application
- Small & Medium Workpiece

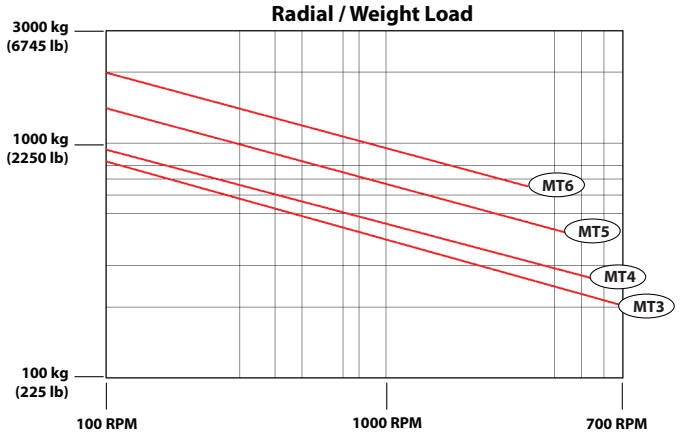
Suggested Lathe
- All types of CNC Machine Centers
- High Precision Manual Lathes

Double Shield High Pressure Coolant Resistance!

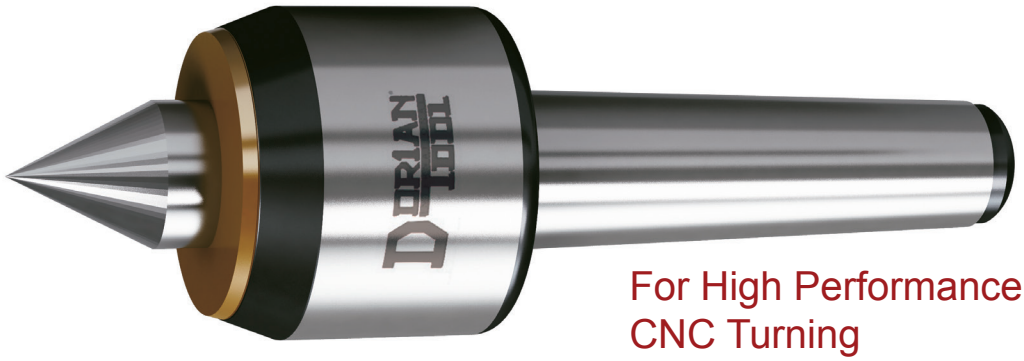


Axial / Thrust and Radial / Weight Load



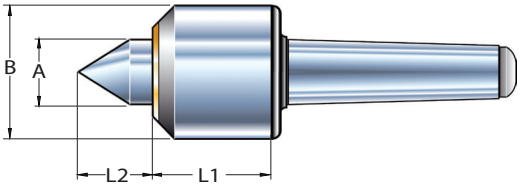


Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)



For High Performance
CNC Turning

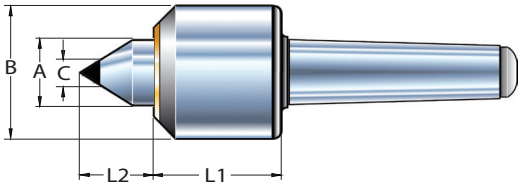
CNC High Speed Heavy Duty Live Center with 60º Standard Steel Point



60º Standard Steel Point

UPC 733101-	Description	System	A	B	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48220	PLC-CNC-S60-MT3	in	0.87	2.17	1.85	1.10	MT3	2.20	7000	1386	1144
		mm	22	55	47	28	MT3	1.0	7000	630	520
48221	PLC-CNC-S60-MT4	in	1.14	2.40	2.17	1.58	MT4	3.63	5500	1883	1438
		mm	29	61	55	40	MT4	1.7	5500	856	654
48222	PLC-CNC-S60-MT5	in	1.50	3.15	2.48	1.89	MT5	7.81	4500	2860	2486
		mm	38	80	63	48	MT5	3.6	4500	1300	1130
48223	PLC-CNC-S60-MT6	in	1.65	3.66	2.88	2.17	MT6	18.7	3200	3740	2508
		mm	42	93	73	55	MT6	8.5	3200	1700	1140

CNC High Speed Heavy Duty Live Center with 60º Standard Carbide Point



60º Standard Carbide Point

UPC 733101-	Description	System	A	B	C	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48224	PLC-CNC-C60-MT3	in	0.87	2.17	0.39	1.85	1.10	MT3	2.20	7000	1386	1144
		mm	22	55	10	47	28	MT3	1.0	7000	630	520
48225	PLC-CNC-C60-MT4	in	1.14	2.40	0.47	2.17	1.58	MT4	3.63	5500	1883	1438
		mm	29	61	12	55	40	MT4	1.7	5500	856	654
48226	PLC-CNC-C60-MT5	in	1.50	3.15	0.70	2.48	1.89	MT5	7.81	4500	2860	2486
		mm	38	80	18	63	48	MT5	3.6	4500	1300	1130
48227	PLC-CNC-C60-MT6	in	1.65	3.66	0.78	2.88	2.17	MT6	18.7	3200	3740	2508
		mm	42	93	20	73	55	MT6	8.5	3200	1700	1140

CNC High Speed Heavy Duty Live Center with 60º Extended Medium Slim Steel or Carbide Point

T.I.R. 0.0001

Features

- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Sealed with Lip Seal and Locked with a Flange Shield
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

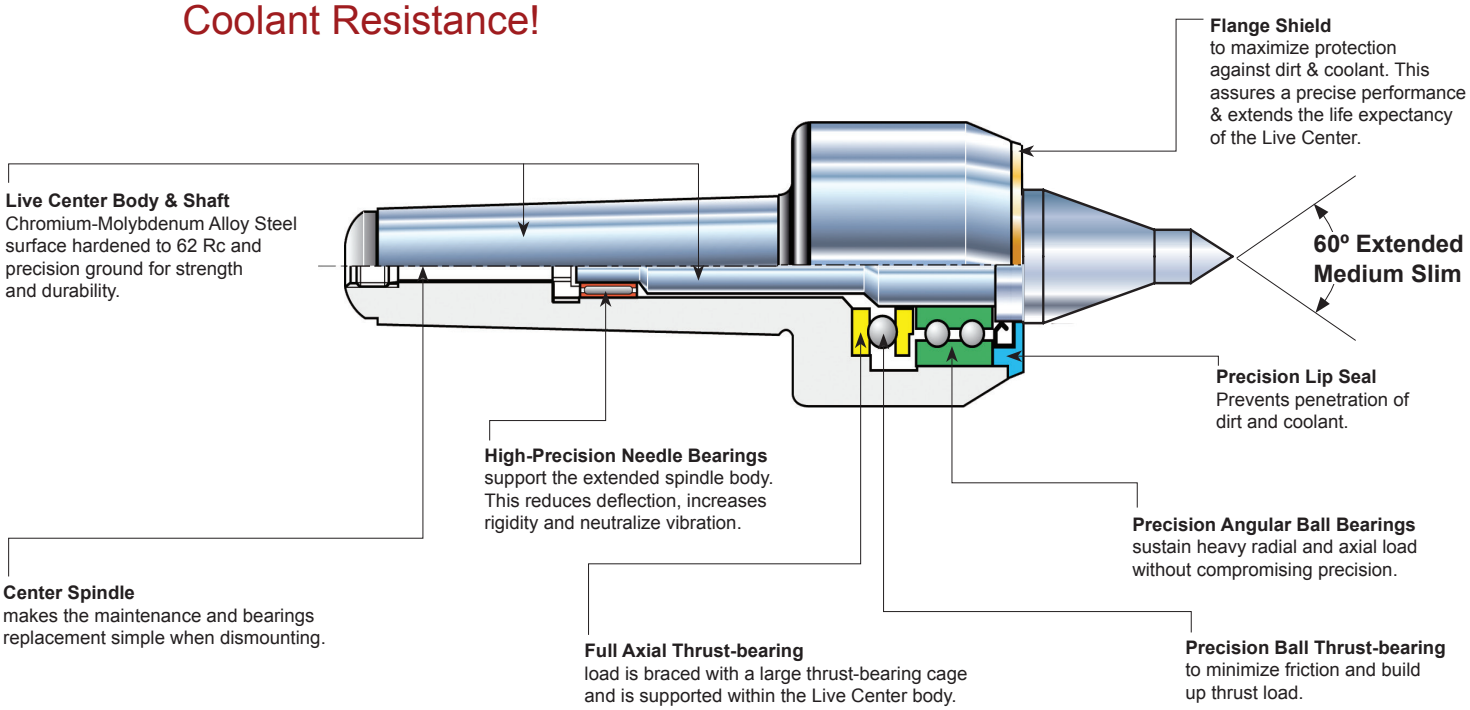
Application

- Roughing & Precision Finishing
- High Precision Turning
- Medium to High Turning Speed
- High Performance CNC Turning Application
- Small & Medium Workpiece

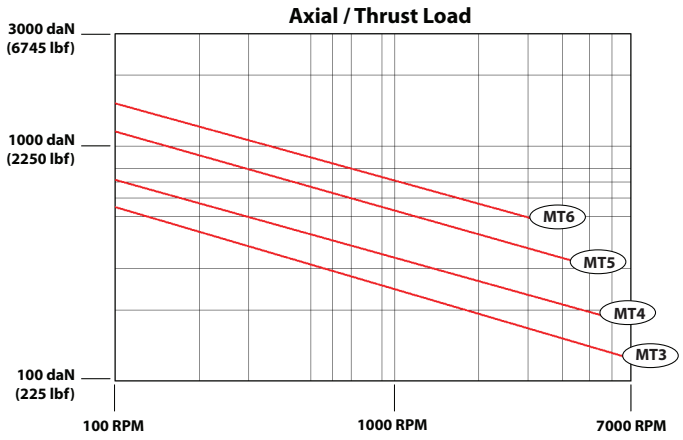
Suggested Lathe

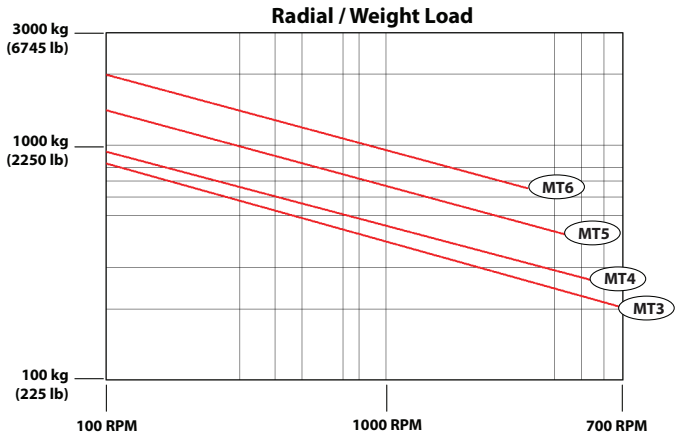
- All types of CNC Machine Centers
- High Precision Manual Lathes

Double Shield High Pressure Coolant Resistance!

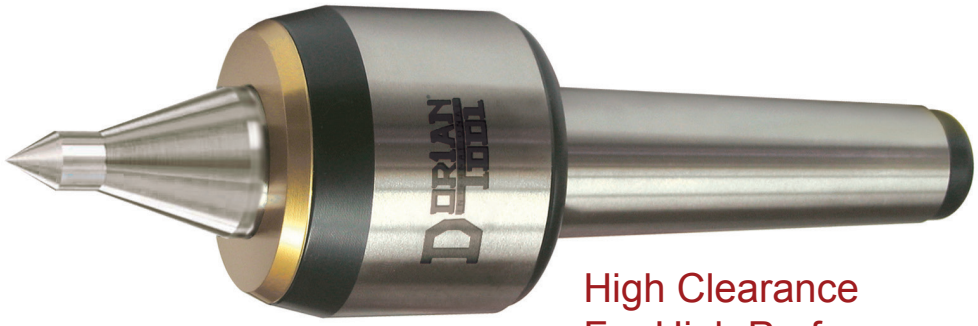


Axial / Thrust and Radial / Weight Load



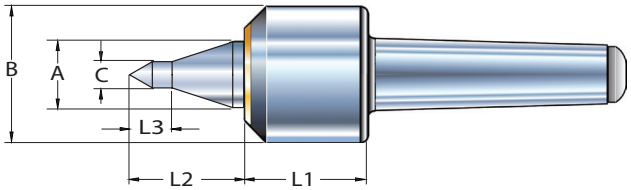


Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)



High Clearance For High Performance CNC Turning

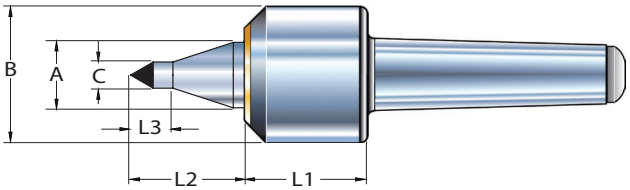
CNC High Speed Heavy Duty Live Center with 60º Extended Medium Slim Steel Point



60º Extended Medium Slim Steel Point

UPC 733101-	Description	System	A	B	C	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48282	PLC-CNC-EMSSP-MT3	in	0.87	2.17	0.39	1.85	1.65	0.59	MT3	2.20	7000	1386	1144
		mm	22	55	10	47	42	15	MT3	1.0	7000	630	520
48283	PLC-CNC-EMSSP-MT4	in	1.14	2.40	0.47	2.17	2.01	0.62	MT4	3.63	5500	1883	1438
		mm	29	61	12	55	51	16	MT4	1.7	5500	856	654
48284	PLC-CNC-EMSSP-MT5	in	1.50	3.15	0.62	2.48	2.21	0.70	MT5	7.81	4500	2860	2486
		mm	38	80	16	63	56	18	MT5	3.6	4500	1300	1130
48285	PLC-CNC-EMSSP-MT6	in	1.65	3.66	0.70	2.88	3.07	0.78	MT6	18.7	3200	3740	2508
		mm	42	93	18	73	78	20	MT6	8.5	3200	1700	1140

CNC High Speed Heavy Duty Live Center with 60º Extended Medium Slim Carbide Point



60º Extended Medium Slim Carbide Point

UPC 733101-	Description	System	A	B	C	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48286	PLC-CNC-EMSCP-MT3	in	0.87	2.17	0.39	1.85	1.65	0.59	MT3	2.20	7000	1386	1144
		mm	22	55	10	47	42	15	MT3	1.0	7000	630	520
48287	PLC-CNC-EMSCP-MT4	in	1.14	2.40	0.47	2.17	2.01	0.62	MT4	3.63	5500	1883	1438
		mm	29	61	12	55	51	16	MT4	1.7	5500	856	654
48288	PLC-CNC-EMSCP-MT5	in	1.50	3.15	0.62	2.48	2.21	0.70	MT5	7.81	4500	2860	2486
		mm	38	80	16	63	56	18	MT5	3.6	4500	1300	1130
48289	PLC-CNC-EMSCP-MT6	in	1.65	3.66	0.70	2.88	3.07	0.78	MT6	18.7	3200	3740	2508
		mm	42	93	18	73	78	20	MT6	8.5	3200	1700	1140

CNC High Speed Heavy Duty Live Center with 60° Extended Small Slim Steel or Carbide Point

T.I.R. 0.0001

Features

- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Sealed with Lip Seal and Locked with a Flange Shield
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

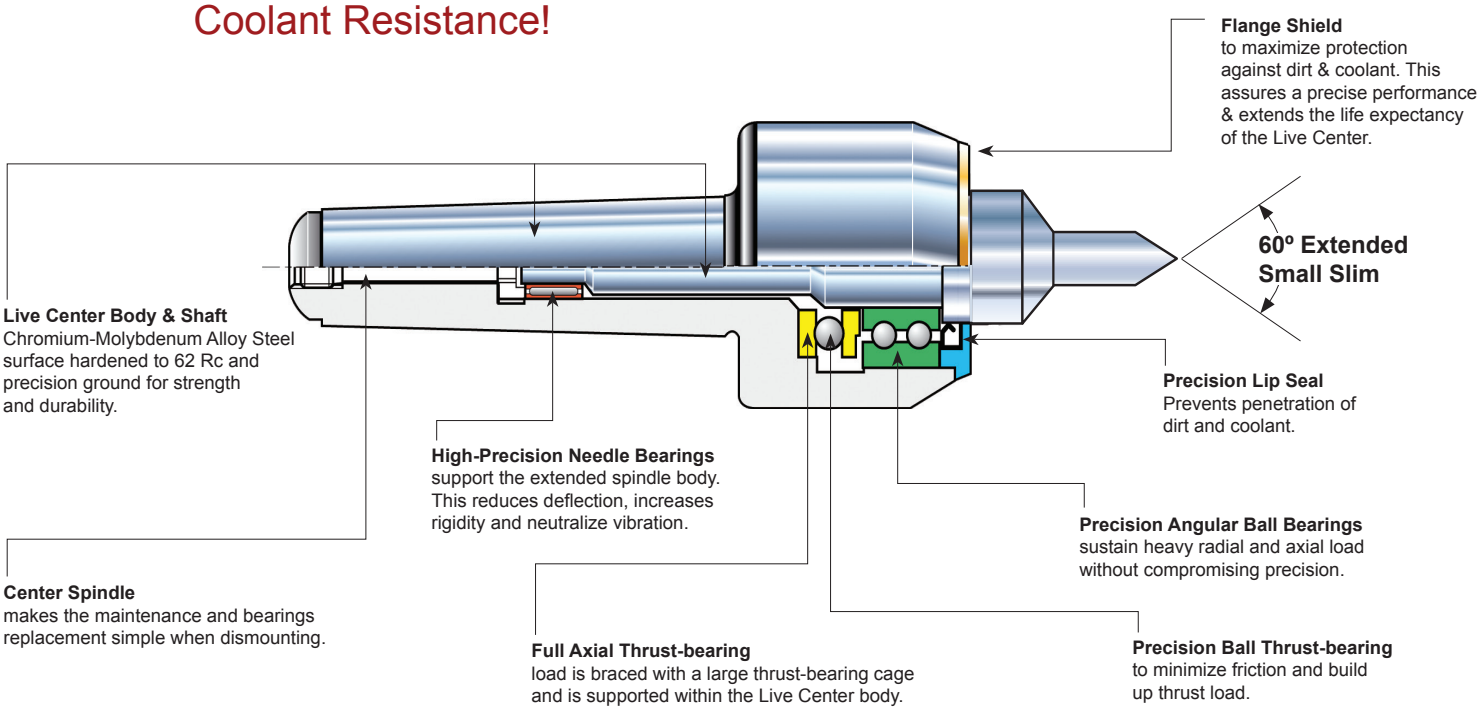
Application

- Roughing & Precision Finishing
- High Precision Turning
- Medium to High Turning Speed
- High Performance CNC Turning Application
- Small & Medium Workpiece

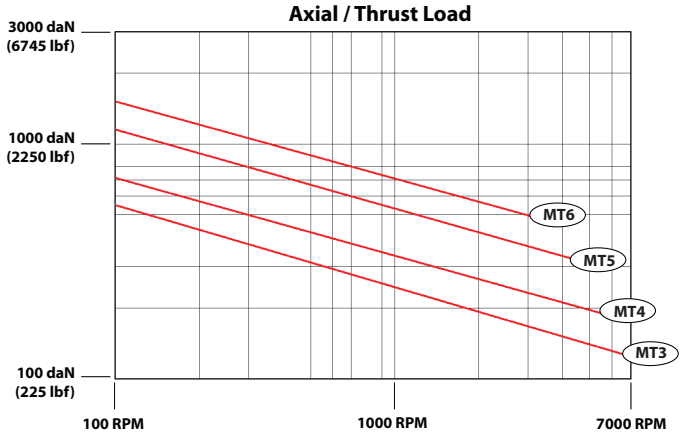
Suggested Lathe

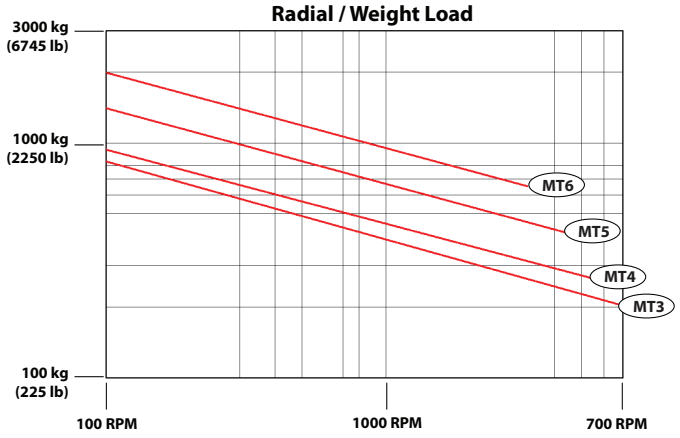
- All types of CNC Machine Centers
- High Precision Manual Lathes

Double Shield High Pressure Coolant Resistance!



Axial / Thrust and Radial / Weight Load

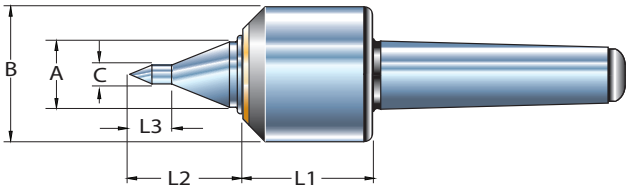




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

High Clearance For High Performance CNC Turning

CNC High Speed Heavy Duty Live Center with 60º Extended Small Slim Steel Point

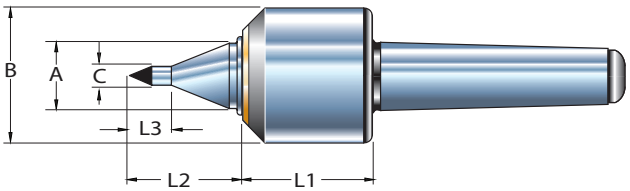


60º Extended Small Slim Steel Point

UPC 733101-	Description	System	A	B	C	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. Workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48600	PLC-CNC-ESSSP-MT3	in	0.87	2.17	0.27	1.85	1.65	0.787	MT3	2.20	7000	1386	1144
		mm	22	55	7	47	42	20	MT3	1.0	7000	630	520
48601	PLC-CNC-ESSSP-MT4	in	1.14	2.40	0.31	2.17	2.00	0.866	MT4	3.63	5500	1883	1438
		mm	29	61	8	55	51	22	MT4	1.7	5500	856	654
48602	PLC-CNC-ESSSP-MT5	in	1.50	3.15	0.39	2.48	2.24	0.945	MT5	7.81	4500	2860	2486
		mm	38	80	10	63	57	24	MT5	3.6	4500	1300	1130
48603	PLC-CNC-ESSSP-MT6	in	1.65	3.66	0.39	2.88	3.110	1.102	MT6	18.7	3200	3740	2508
		mm	42	93	10	73	79	28	MT6	8.5	3200	1700	1140

Speciality Item, call for price and delivery.

CNC High Speed Heavy Duty Live Center with 60º Extended Small Slim Carbide Point



60º Extended Small Slim Carbide Point

UPC 733101-	Description	System	A	B	C	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48604	PLC-CNC-ESSCP-MT3	in	0.87	2.17	0.27	1.85	1.65	0.787	MT3	2.20	7000	1386	1144
		mm	22	55	7	47	42	20	MT3	1.0	7000	630	520
48605	PLC-CNC-ESSCP-MT4	in	1.14	2.40	0.31	2.17	2.00	0.866	MT4	3.63	5500	1883	1438
		mm	29	61	8	55	51	22	MT4	1.7	5500	856	654
48606	PLC-CNC-ESSCP-MT5	in	1.50	3.15	0.39	2.48	2.24	0.945	MT5	7.81	4500	2860	2486
		mm	38	80	10	63	57	24	MT5	3.6	4500	1300	1130
48607	PLC-CNC-ESSCP-MT6	in	1.65	3.66	0.39	2.88	3.110	1.102	MT6	18.7	3200	3740	2508
		mm	42	93	10	73	79	28	MT6	8.5	3200	1700	1140

Speciality Item, call for price and delivery.

CNC High Speed Heavy Duty Live Center with 60º Extended Large Slim Steel or Carbide Point

T.I.R. 0.0001

Features

- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Sealed with Lip Seal and Locked with a Flange Shield
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

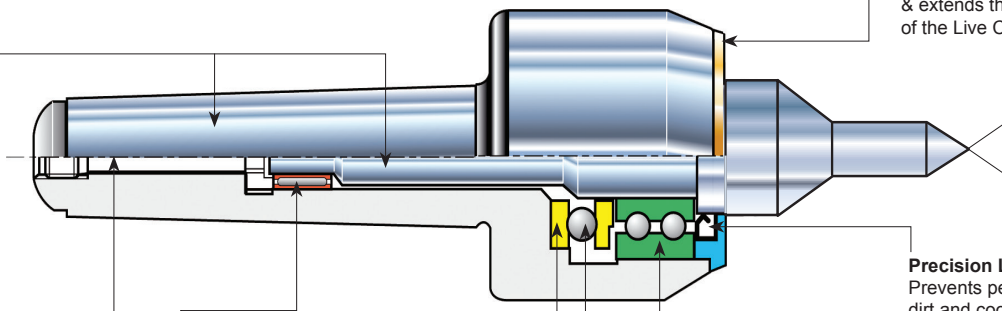
Application

- Roughing & Precision Finishing
- High Precision Turning
- Medium to High Turning Speed
- High Performance CNC Turning Application
- Small & Medium Workpiece

Suggested Lathe

- All types of CNC Machine Centers
- High Precision Manual Lathes

Double Shield High Pressure Coolant Resistance!



Flange Shield
to maximize protection against dirt & coolant. This assures a precise performance & extends the life expectancy of the Live Center.

60º Extended Large Slim

Live Center Body & Shaft
Chromium-Molybdenum Alloy Steel surface hardened to 62 Rc and precision ground for strength and durability.

Precision Lip Seal
Prevents penetration of dirt and coolant.

High-Precision Needle Bearings
support the extended spindle body. This reduces deflection, increases rigidity and neutralize vibration.

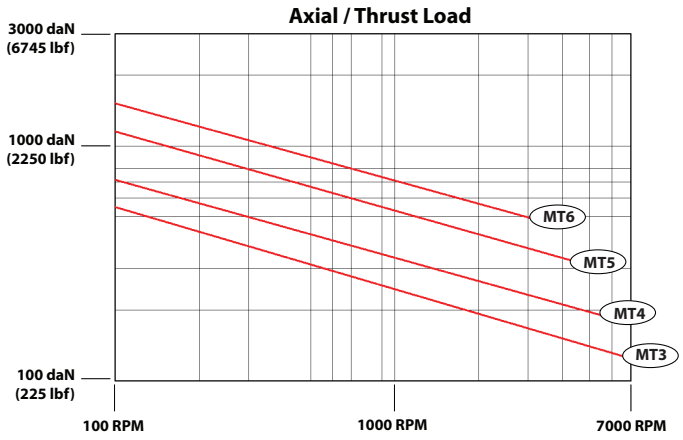
Precision Angular Ball Bearings
sustain heavy radial and axial load without compromising precision.

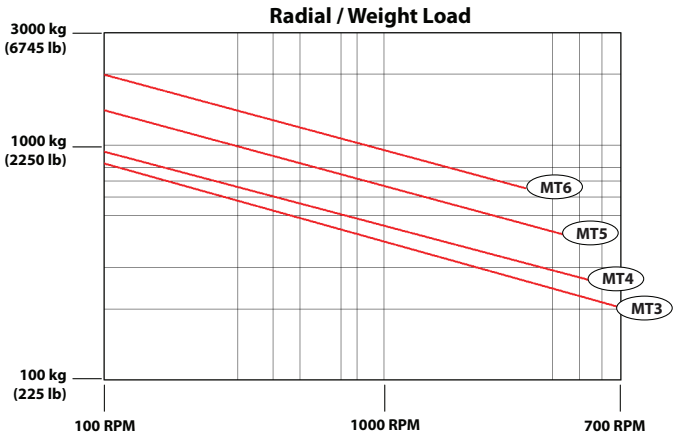
Center Spindle
makes the maintenance and bearings replacement simple when dismounting.

Full Axial Thrust-bearing
load is braced with a large thrust-bearing cage and is supported within the Live Center body.

Precision Ball Thrust-bearing
to minimize friction and build up thrust load.

Axial / Thrust and Radial / Weight Load

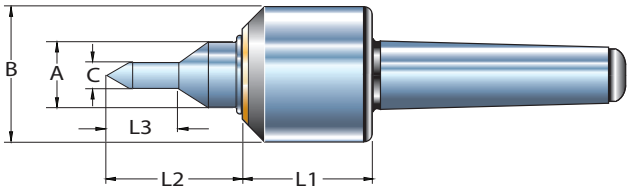




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

High Clearance For High Performance CNC Turning

CNC High Speed Heavy Duty Live Center with 60º Extended Large Slim Steel Point

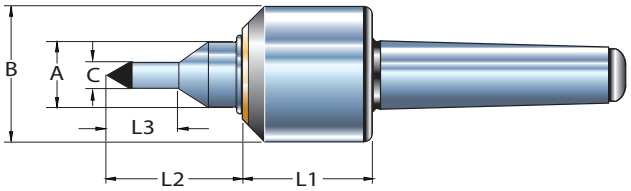


60º Extended Large Slim Steel Point

UPC 733101-	Description	System	A	B	C	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48608	PLC-CNC-ELSSP-MT3	in	0.87	2.17	0.47	1.85	1.65	1.02	MT3	2.20	7000	1386	1144
		mm	22	55	12	47	42	26	MT3	1.0	7000	630	520
48609	PLC-CNC-ELSSP-MT4	in	1.14	2.40	0.55	2.17	2.00	1.18	MT4	3.63	5500	1883	1438
		mm	29	61	14	55	51	30	MT4	1.7	5500	856	654
48610	PLC-CNC-ELSSP-MT5	in	1.50	3.15	0.70	2.48	2.20	1.26	MT5	7.81	4500	2860	2486
		mm	38	80	18	63	56	32	MT5	3.6	4500	1300	1130
48611	PLC-CNC-ELSSP-MT6	in	1.65	3.66	0.78	2.88	2.20	1.57	MT6	18.7	3200	3740	2508
		mm	42	93	20	73	56	40	MT6	8.5	3200	1700	1140

Speciality Item, call for price and delivery.

CNC High Speed Heavy Duty Live Center with 60º Extended Large Slim Carbide Point



60º Extended Large Slim Carbide Point

UPC 733101-	Description	System	A	B	C	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48612	PLC-CNC-ELSCP-MT3	in	0.87	2.17	0.47	1.85	1.65	1.02	MT3	2.20	7000	1386	1144
		mm	22	55	12	47	42	26	MT3	1.0	7000	630	520
48613	PLC-CNC-ELSCP-MT4	in	1.14	2.40	0.55	2.17	2.00	1.18	MT4	3.63	5500	1883	1438
		mm	29	61	14	55	51	30	MT4	1.7	5500	856	654
48614	PLC-CNC-ELSCP-MT5	in	1.50	3.15	0.70	2.48	2.20	1.26	MT5	7.81	4500	2860	2486
		mm	38	80	18	63	56	32	MT5	3.6	4500	1300	1130
48615	PLC-CNC-ELSCP-MT6	in	1.65	3.66	0.78	2.88	2.20	1.57	MT6	18.7	3200	3740	2508
		mm	42	93	20	73	56	40	MT6	8.5	3200	1700	1140

Speciality Item, call for price and delivery.

CNC High Speed Heavy Duty Live Center with 60º Extended Large Steel or Carbide Point

T.I.R. 0.0001

Features

- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Sealed with Lip Seal and Locked with a Flange Shield
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

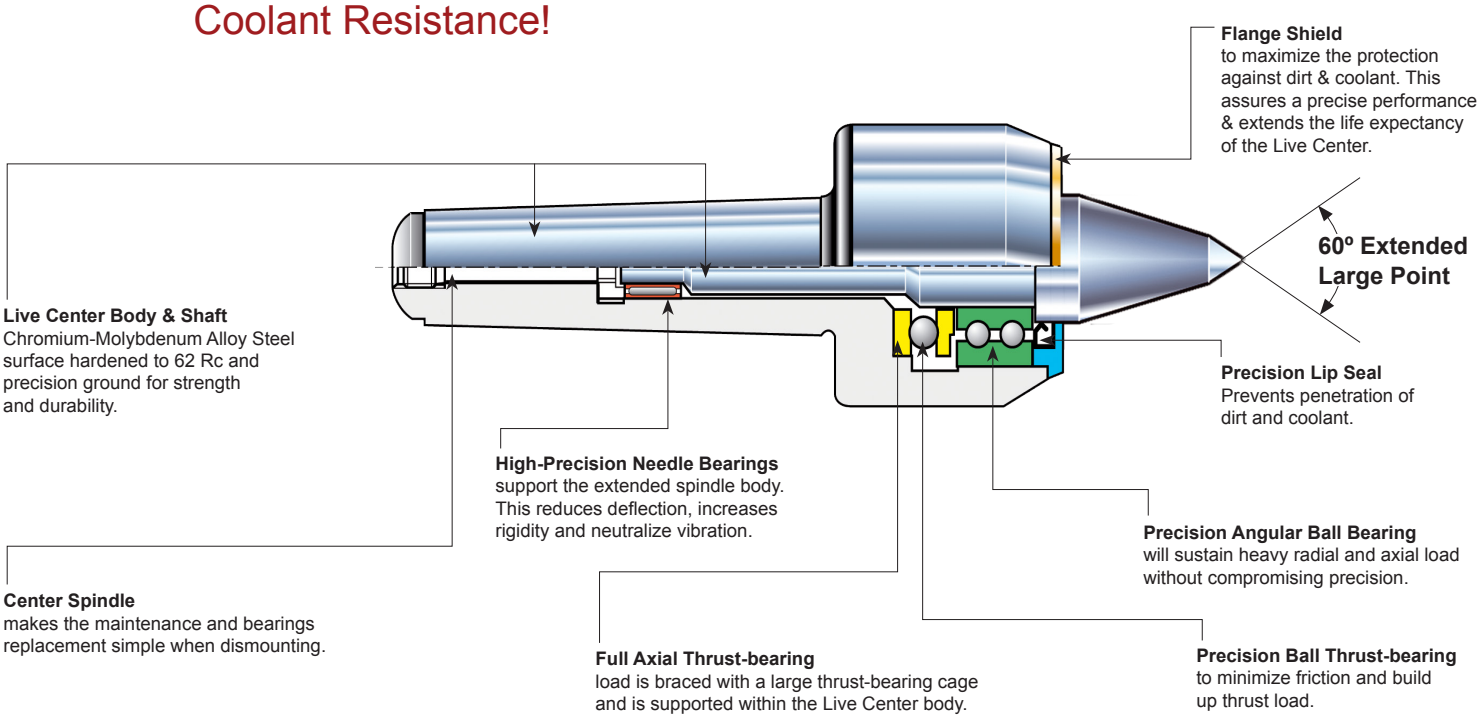
Application

- Roughing & Precision Finishing
- High Precision Turning
- Medium to High Turning Speed
- High Performance CNC Turning Application
- Small & Medium Workpiece

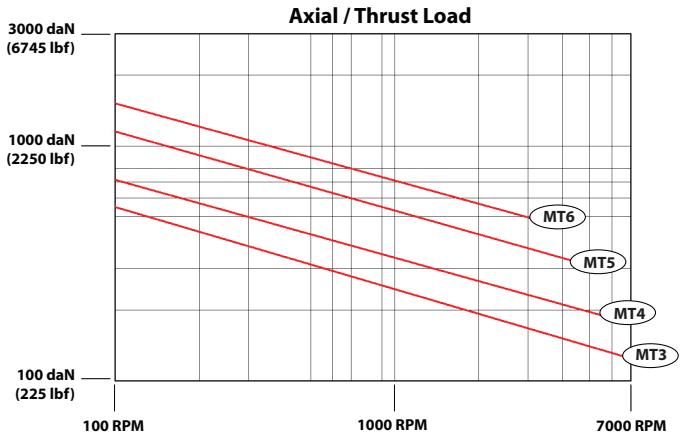
Suggested Lathe

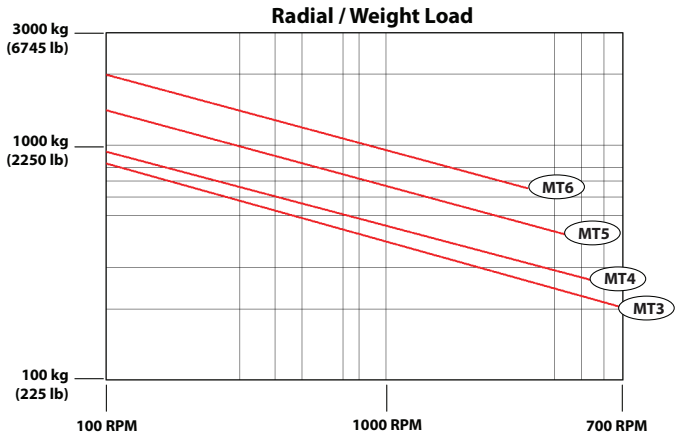
- All types of CNC Machine Centers
- High Precision Manual Lathes

Double Shield High Pressure Coolant Resistance!



Axial / Thrust and Radial / Weight Load

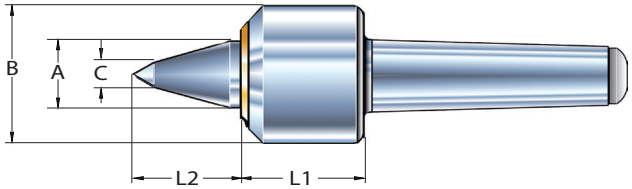




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

High Clearance Rigidity
For Roughing & Precision Finishing

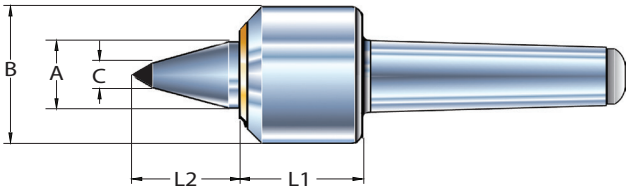
CNC High Speed Heavy Duty Live Center with 60º Extended Large Steel Point



60º Extended Large Steel Point

UPC 733101-	Description	System	A	B	C	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/ (daN)
48232	PLC-CNC-ELSP-MT3	in	0.87	2.17	0.23	1.85	1.65	MT3	2.20	7000	1386	1144
		mm	22	55	6	47	42	MT3	1.0	7000	630	520
48233	PLC-CNC-ELSP-MT4	in	1.14	2.40	0.31	2.17	2.01	MT4	3.63	5500	1883	1438
		mm	29	61	8	55	51	MT4	1.7	5500	856	654
48234	PLC-CNC-ELSP-MT5	in	1.50	3.15	0.47	2.48	2.21	MT5	7.81	4500	2860	2486
		mm	38	80	12	63	56	MT5	3.6	4500	1300	1130
48235	PLC-CNC-ELSP-MT6	in	1.65	3.66	0.59	2.88	3.07	MT6	18.7	3200	3740	2508
		mm	42	93	15	73	78	MT6	8.5	3200	1700	1140

CNC High Speed Heavy Duty Live Center with 60º Extended Large Carbide Point



60º Extended Large Carbide Point

UPC 733101-	Description	System	A	B	C	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/ (daN)
48236	PLC-CNC-ELCP-MT3	in	0.87	2.17	0.23	1.85	1.65	MT3	2.20	7000	1386	1144
		mm	22	55	6	47	42	MT3	1.0	7000	630	520
48237	PLC-CNC-ELCP-MT4	in	1.14	2.40	0.31	2.17	2.01	MT4	3.63	5500	1883	1438
		mm	29	61	8	55	51	MT4	1.7	5500	856	654
48238	PLC-CNC-ELCP-MT5	in	1.50	3.15	0.39	2.48	2.21	MT5	7.81	4500	2860	2486
		mm	38	80	10	63	56	MT5	3.6	4500	1300	1130
48239	PLC-CNC-ELCP-MT6	in	1.65	3.66	0.47	2.88	3.07	MT6	18.7	3200	3740	2508
		mm	42	93	12	73	78	MT6	8.5	3200	1700	1140

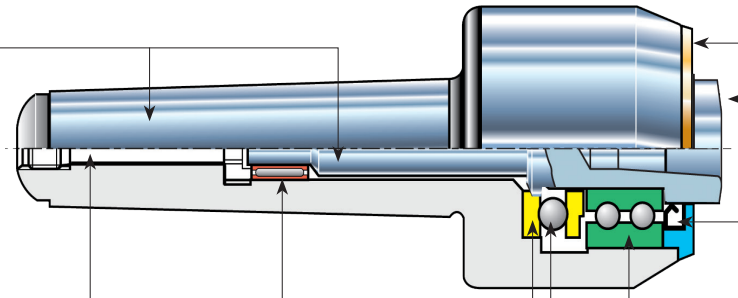
CNC High Speed Heavy Duty Live Center for Interchangeable Points — T.I.R. 0.0001

Features
- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Sealed with Lip Seal and Locked with a Flange Shield
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

Application
- Roughing & Precision Finishing
- High Precision Turning
- Medium to High Turning Speed
- High Performance CNC Turning Application
- Small & Medium Workpiece

Suggested Lathe
- All types of CNC Machine Centers
- High Precision Manual Lathes

Double Shield High Pressure Coolant Resistance!



Flange Shield to maximize the protection against dirt & coolant. This assures a precise performance & extends the life expectancy of the Live Center.

Engaging Point Taper is Precision Ground with .00005 T.I.R.

Precision Lip Seal Prevents penetration of dirt and coolant.

Live Center Body & Shaft Chromium-Molybdenum Alloy Steel surface hardened to 62 Rc and precision ground for strength and durability.

High-Precision Needle Bearings support the extended spindle body. This reduces deflection, increases rigidity and neutralize vibration.

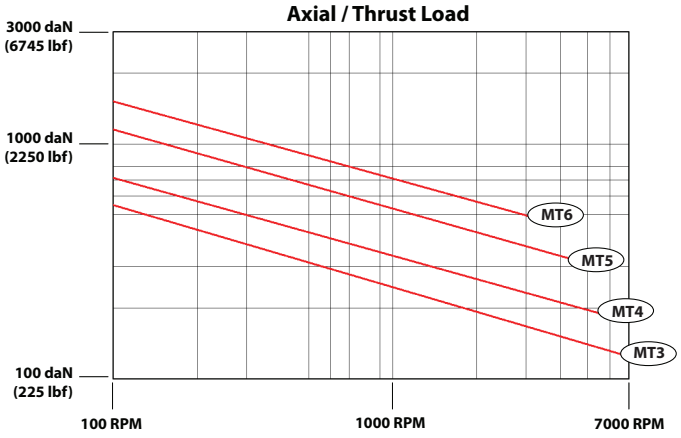
Precision Angular Ball Bearing will sustain heavy radial and axial load without compromising precision.

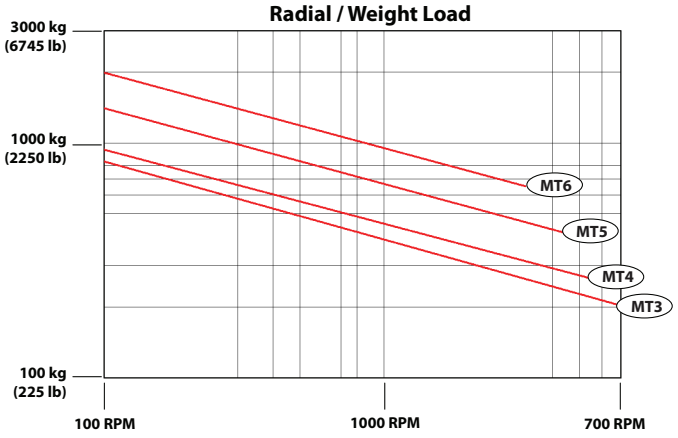
Center Spindle makes the maintenance and bearings replacement simple when dismounting.

Full Axial Thrust-bearing load is braced with a large thrust-bearing cage and is supported within the Live Center body.

Precision Ball Thrust-bearing to minimize friction and build up thrust load.

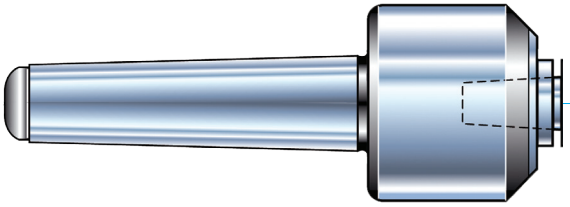
Axial / Thrust and Radial / Weight Load



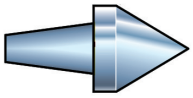


Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For Roughing & Precision Finishing

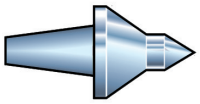


Precision Ground Taper for Interchangeability & Accurate Repeatability!

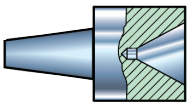


INP — **60º Steel Point** **(Supplied)**

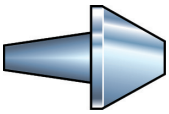
EXP — **Extended Point** (Sold Separately)



USP — **Undersized Point** (Sold Separately)

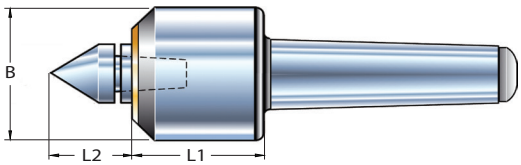


FCUP — **Female Cup** (Sold Separately)



BNP — **Bull Nose Point** (Sold Separately, Small, Medium & Large Diameter)

CNC High Speed Heavy Duty Live Center for Interchangeable Points



For Five Interchangeable Points

UPC 733101-	Description	System	A	B	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48228	PLC-CNC-INT-MT3	in	0.99	2.17	1.85	1.46	MT3	2.20	7000	1386	1144
		mm	25	55	47	37	MT3	1.0	7000	630	520
48229	PLC-CNC-INT-MT4	in	1.14	2.40	2.17	1.60	MT4	3.63	5500	1883	1438
		mm	29	61	55	40.5	MT4	1.7	5500	856	654
48230	PLC-CNC-INT-MT5	in	1.38	3.15	2.48	1.81	MT5	7.81	4500	2860	2486
		mm	35	80	63	46	MT5	3.6	4500	1300	1130
48231	PLC-CNC-INT-MT6	in	1.65	3.66	2.88	2.17	MT6	18.7	3200	3740	2508
		mm	42	93	73	55	MT6	8.5	3200	1700	1140

Supplied with (1) INP 60º Interchangeable Point (see Page A-48 - M49 for all interchangeable Points). For Center Point Extraction Tool (NOT Supplied) see Page A-49.

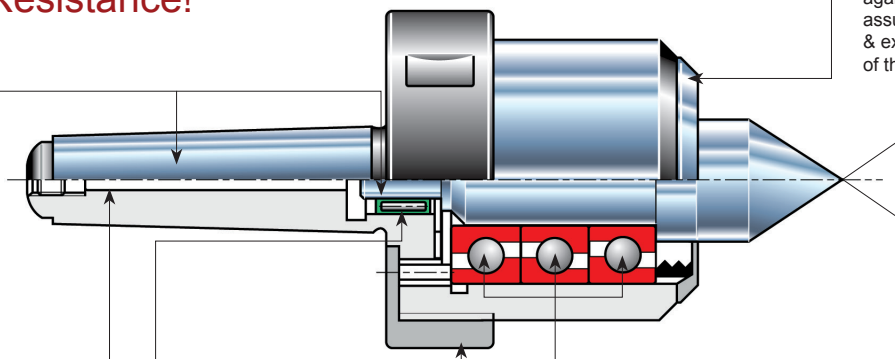
CNC Super High Speed Heavy Duty Live Center with 60° Standard Steel or Carbide Point | T.I.R. 0.0001

Features
- Precise Concentricity T.I.R. 0.0001
- Triple Crown Super Precision Angular Ball Bearings
- Three Permanently Lubricated Bearings
- Sealed with Lip Seal and Locked with a Flange Shield
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

Application
- Heavy Roughing & Precision Finishing
- Super Precision Turning
- High Turning Speed Up to 12000 RPM
- Super Precision Turning & Grinding Application
- Light, Medium, Heavy Workpiece

Suggested Lathe
- All types of CNC Machine Centers
- Cylindrical Grinding Machine

Double Shield High Pressure Coolant Resistance!



Flange Shield to maximize the protection against dirt & coolant. This assures a precise performance & extends the life expectancy of the Live Center.

60° Standard Point

Live Center Body & Shaft Chromium-Molybdenum Alloy Steel surface hardened to 62 Rc and precision ground for strength and durability.

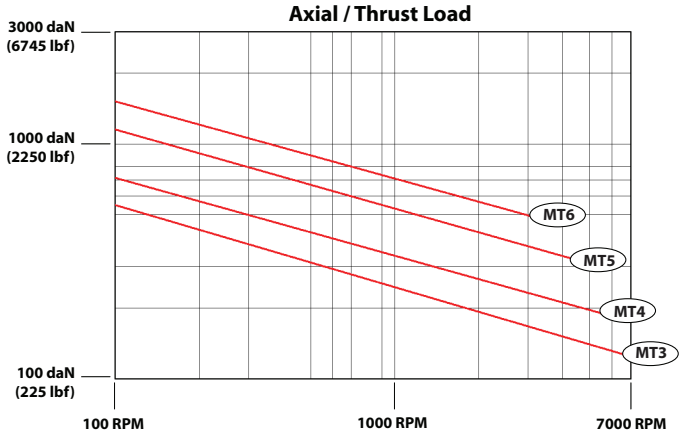
High-Precision Needle Bearing support the extended spindle body. This reduces deflection, increases rigidity and neutralize vibration.

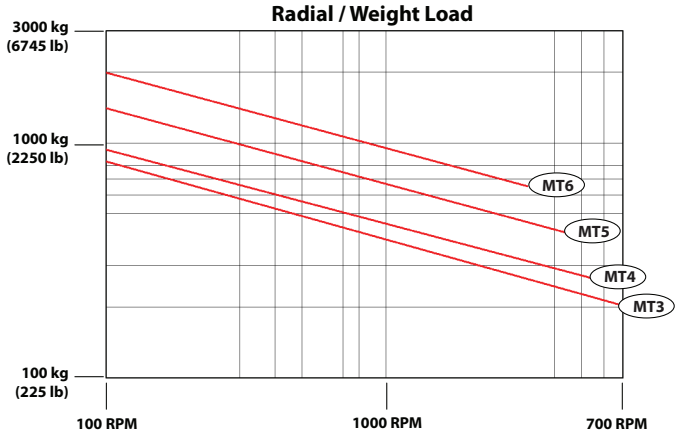
Center Spindle makes the maintenance and bearings replacement simple when dismounting.

Extraction-Nut simplifies the removal of the Live Center from the tail stock.

Triple Crown Super Precision Angular Ball Bearings with low friction angular ball thrust bearings.

Axial / Thrust and Radial / Weight Load

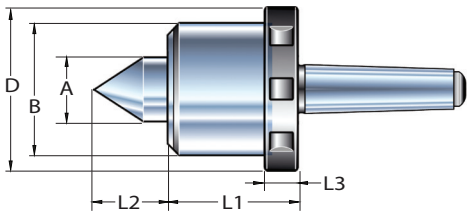




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For Super Precision
Turning & Grinding

CNC Super High Speed Heavy Duty Live Center with 60º Standard Steel Point

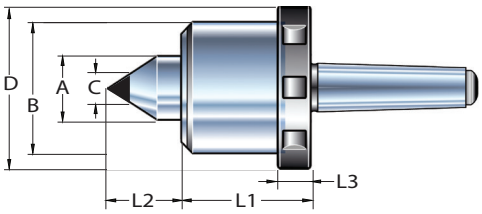


60º Standard Steel Point

UPC 733101-	Description	System	A	B	D	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48240	PLC-SPA-S60-MT3	in	1.18	2.44	2.89	2.72	1.28	0.95	MT3	4.62	12000	3300	2860
		mm	30	62	73	69	32.5	24	MT3	2.1	12000	1500	1300
48241	PLC-SPA-S60-MT4	in	1.38	3.07	3.52	3.14	1.45	0.95	MT4	10.69	9000	5060	4180
		mm	35	78	89	80	37	24	MT4	4.85	9000	2300	1900
48242	PLC-SPA-S60-MT5	in	1.65	3.66	4.09	3.35	1.83	1.06	MT5	14.30	8000	8140	5280
		mm	42	93	104	85	46.5	27	MT5	6.5	8000	3700	2400

CNC Lock Nut Wrench (NOT Supplied), see Page A-49.

CNC Super High Speed Heavy Duty Live Center with 60º Standard Carbide Point



60º Standard Carbide Point

UPC 733101-	Description	System	A	B	C	D	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48290	PLC-SPA-C60-MT3	in	1.18	2.44	0.39	2.89	2.72	1.28	0.95	MT3	4.62	12000	3300	2860
		mm	30	62	10	73	69	32.5	24	MT3	2.1	12000	1500	1300
48291	PLC-SPA-C60-MT4	in	1.38	3.07	0.47	3.52	3.14	1.45	0.95	MT4	10.69	9000	5060	4180
		mm	35	78	12	89	80	37	24	MT4	4.85	9000	2300	1900
48292	PLC-SPA-C60-MT5	in	1.65	3.66	0.70	4.09	3.35	1.83	1.06	MT5	14.30	8000	8140	5280
		mm	42	93	18	104	85	46.5	27	MT5	6.5	8000	3700	2400

CNC Lock Nut Wrench (NOT Supplied), see Page A-49.

CNC Super High Speed Heavy Duty Live Center with 60° Extended Large Steel or Carbide Point | T.I.R. 0.0001

Features

- Precise Concentricity T.I.R. 0.0001
- Triple Crown Super Precision Angular Ball Bearing
- Three Permanently Lubricated Bearings
- Sealed with Lip Seal and Locked with a Flange Shield
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

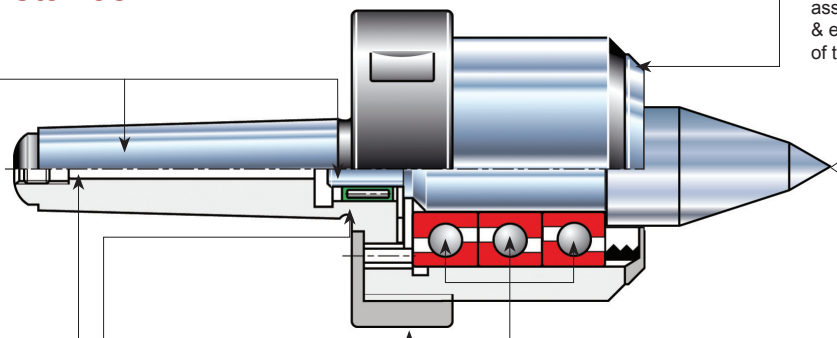
Application

- Heavy Roughing & Precision Finishing
- Super Precision Turning
- High Turning Speed Up to 12000 RPM
- Super Precision Turning & Grinding Application
- Light, Medium, Heavy Workpiece

Suggested Lathe

- All types of CNC Machine Centers
- Cylindrical Grinding Machine

Double Shield High Pressure Coolant Resistance!



Flange Shield to maximize the protection against dirt & coolant. This assures a precise performance & extends the life expectancy of the Live Center.

60° Extended Large Point

Live Center Body & Shaft Chromium-Molybdenum Alloy Steel surface hardened to 62 Rc and precision ground for strength and durability.

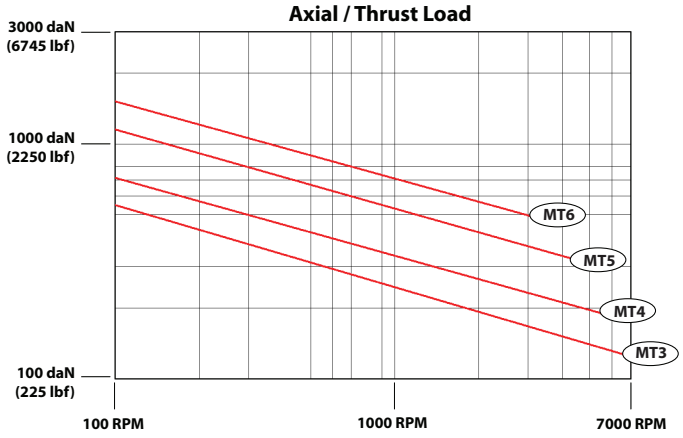
High-Precision Needle Bearing support the extended spindle body. This reduces deflection, increases rigidity and neutralize vibration.

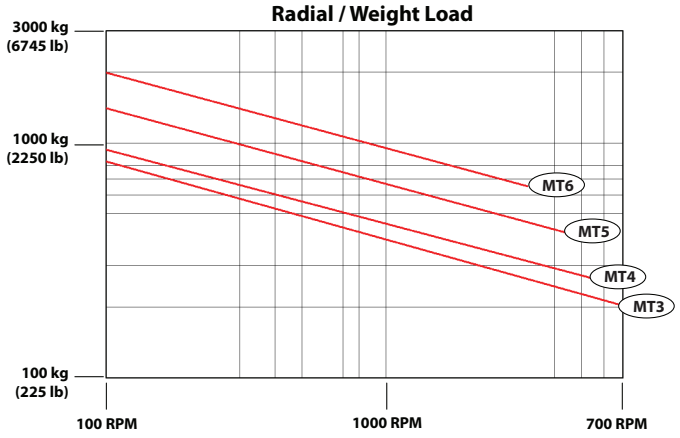
Center Spindle makes the maintenance and bearings replacement simple when dismounting.

Extraction-Nut simplifies the removal of the Live Center from the tail stock.

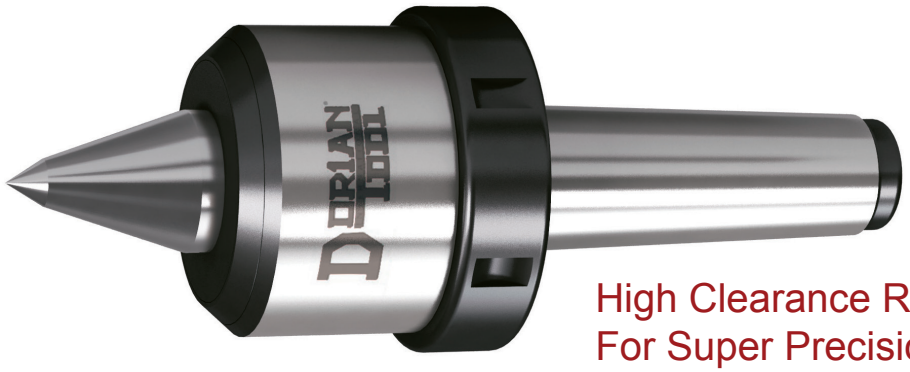
Triple Crown Super Precision Angular Ball Bearings with low friction angular ball thrust bearing, and one precision needle bearing.

Axial / Thrust and Radial / Weight Load



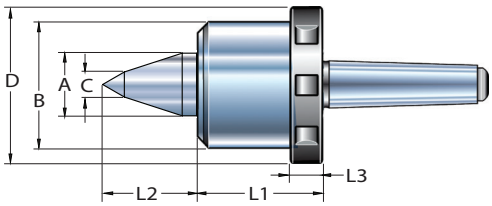


Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)



High Clearance Rigidity For Super Precision Turning & Grinding

CNC Super High Speed Heavy Duty Live Center with 60º Extended Large Steel Point

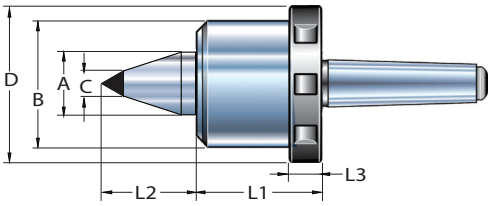


60º Extended Large Steel Point

UPC 733101-	Description	System	A	B	C	D	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48246	PLC-SPA-ELSP-MT3	in	1.18	2.44	0.47	2.89	2.72	1.58	0.95	MT3	4.62	12000	3300	2860
		mm	30	62	12	73	69	40	24	MT3	2.1	12000	1500	1300
48247	PLC-SPA-ELSP-MT4	in	1.38	3.07	0.62	3.52	3.14	1.73	0.95	MT4	10.69	9000	5060	4180
		mm	35	78	16	89	80	44	24	MT4	4.85	9000	2300	1900
48248	PLC-SPA-ELSP-MT5	in	1.65	3.66	0.79	4.09	3.35	2.34	1.06	MT5	14.30	8000	8140	5280
		mm	42	93	20	104	85	59.5	27	MT5	6.5	8000	3700	2400

CNC Lock Nut Wrench (NOT Supplied), see Page A-49. 141 to order.

CNC Super High Speed Heavy Duty Live Center with 60º Extended Large Steel Point



60º Extended Large Carbide Point

UPC 733101-	Description	System	A	B	C	D	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48249	PLC-SPA-ELCP-MT3	in	1.18	2.44	0.39	2.89	2.72	1.58	0.95	MT3	4.62	12000	3300	2860
		mm	30	62	10	73	69	40	24	MT3	2.1	12000	1500	1300
48250	PLC-SPA-ELCP-MT4	in	1.38	3.07	0.55	3.52	3.14	1.73	0.95	MT4	10.69	9000	5060	4180
		mm	35	78	14	89	80	44	24	MT4	4.85	9000	2300	1900
48251	PLC-SPA-ELCP-MT5	in	1.65	3.66	0.70	4.09	3.35	2.34	1.06	MT5	14.30	8000	8140	5280
		mm	42	93	18	104	85	59.5	27	MT5	6.5	8000	3700	2400

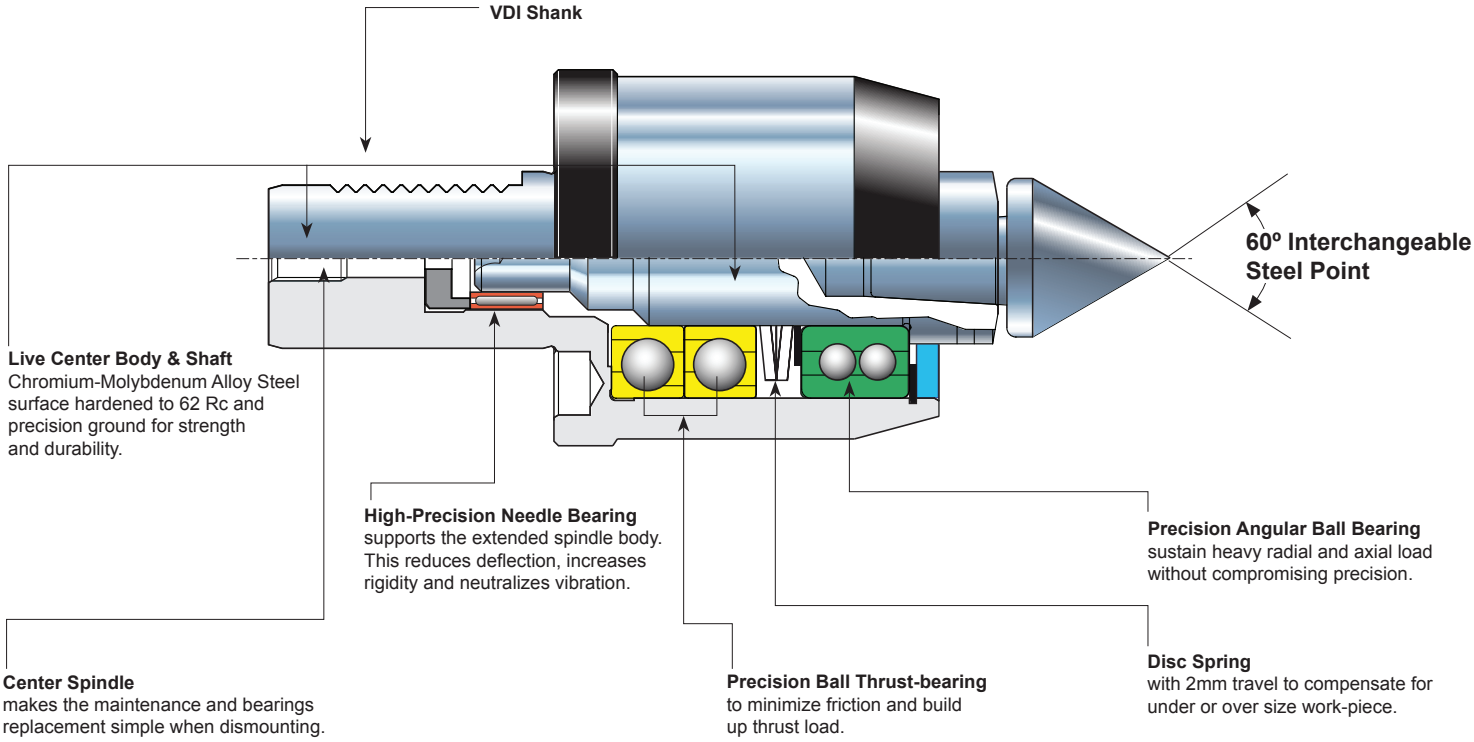
CNC Lock Nut Wrench (NOT Supplied), see Page A-49.

Precision Spring Loaded Live Center with 60º Interchangeable Steel Point & VDI Shank | T.I.R. 0.0001

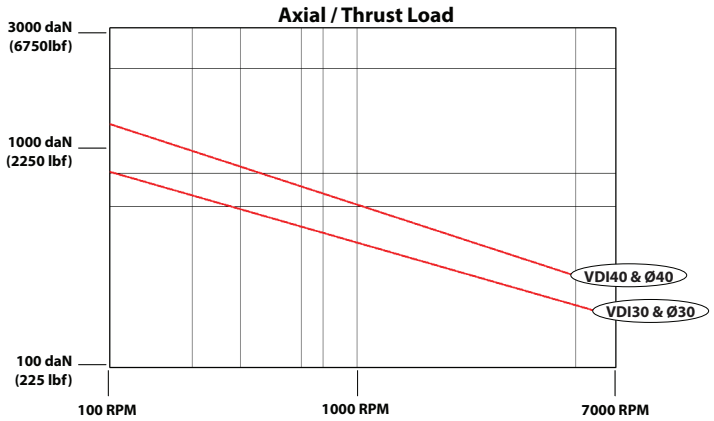
Features
- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

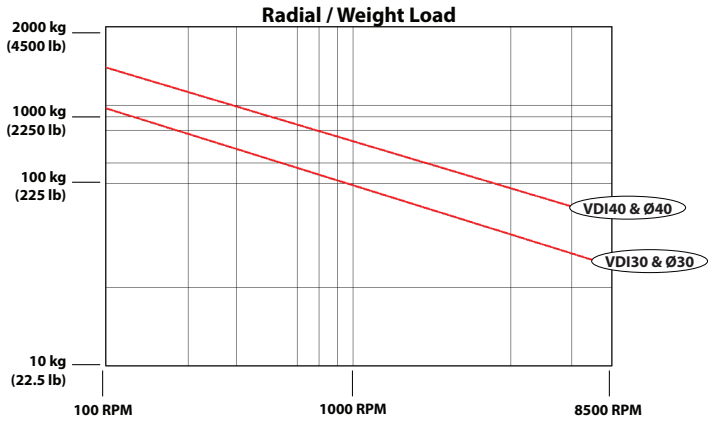
Application
- Finishing to Roughing
- Precision Turning
- Medium to High Speed turning

Suggested Lathe
- CNC Machine Center



Axial / Thrust and Radial / Weight Load

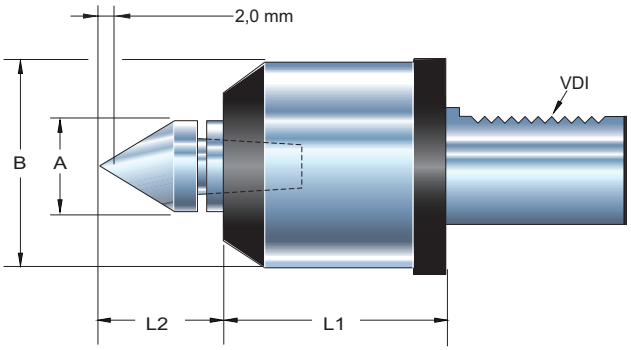




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For Precision
General Turning

Precision Spring Loaded Live Center with 60º Interchangeable Steel Point & VDI Shank



60º Interchangeable Steel Point

UPC 733101-	Description	System	A	B	L1	L2	VDI	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48395	PLC-CNC-INT-VDI-30	in	1.14	2.40	3.11	1.61	1.18	4.4	5500	1883	1438
		mm	29	61	79	41	30	2.0	5500	856	654
48396	PLC-CNC-INT-VDI-40	in	1.37	3.15	3.35	1.85	1.57	8.2	4500	2860	2486
		mm	35	80	85	47	40	3.7	4500	1300	1130

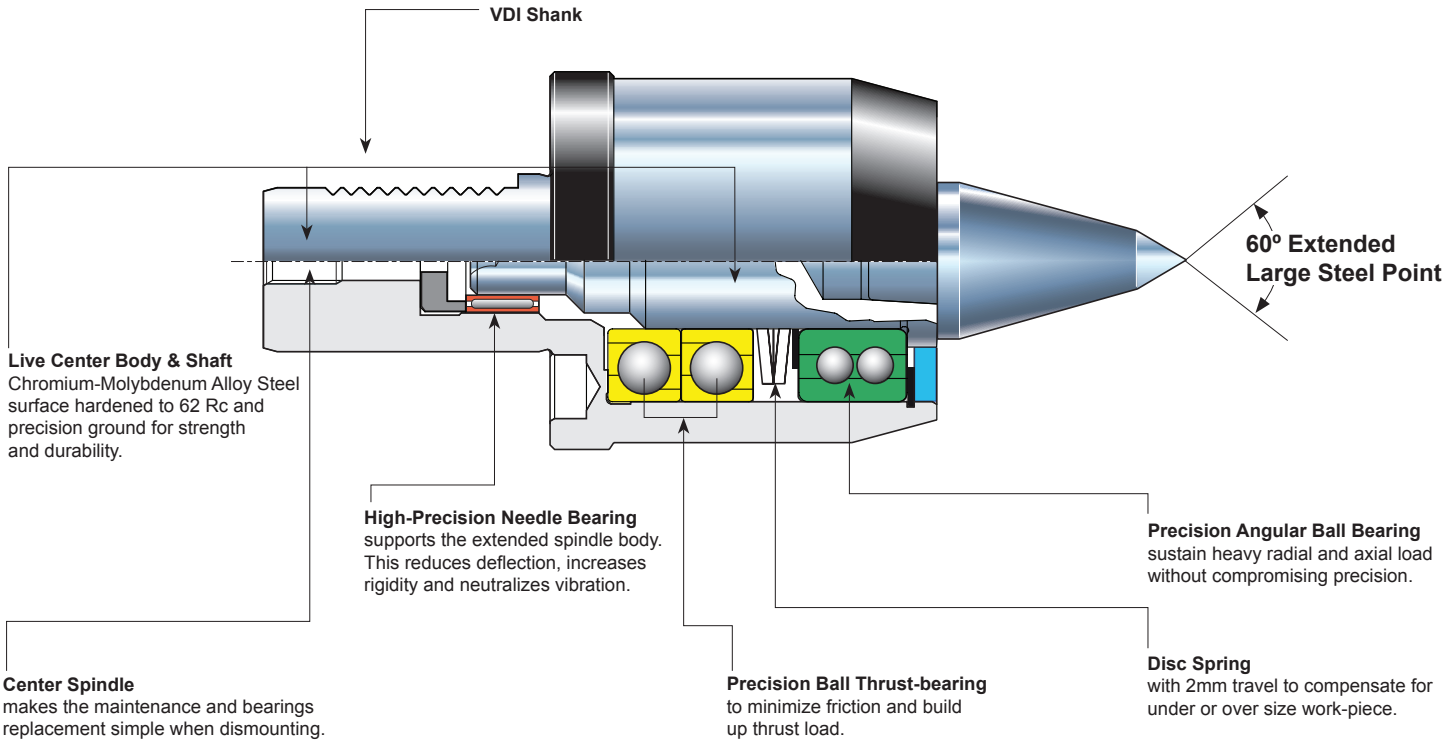
VDI-30 Live Center is supplied with Standard 60° Interchangeable Steel Point (PLCIP-INP-4)
VDI-40 Live Center is supplied with Standard 60° Interchangeable Steel Point (PLCIP-INP-5)
For additional Interchangeable Points see page A-48

Precision Spring Loaded Live Center with 60º Extended Large Steel Point & VDI Shank | T.I.R. 0.0001

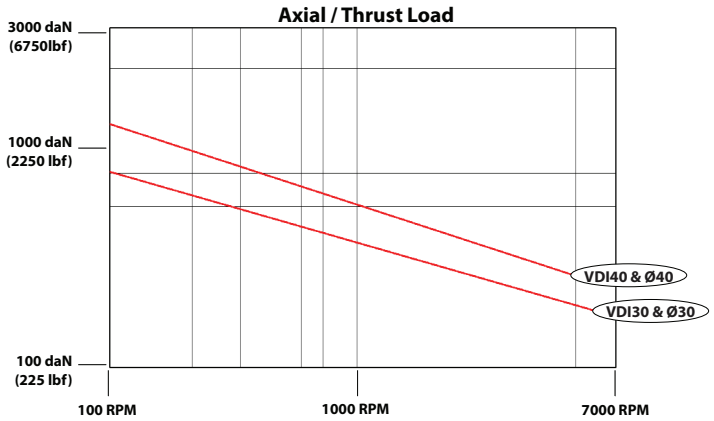
Features
- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

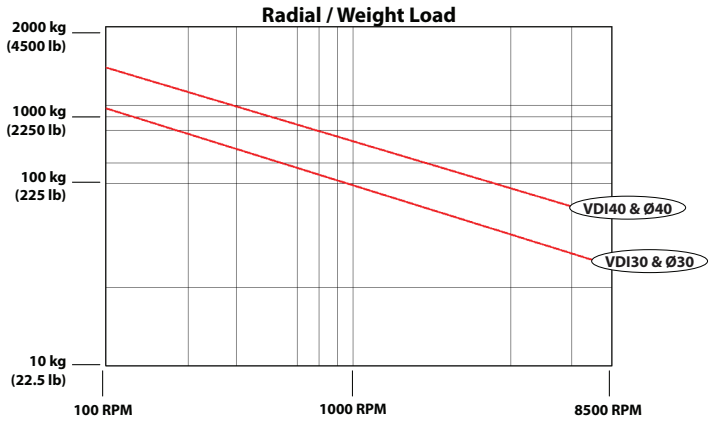
Application
- Finishing to Roughing
- Precision Turning
- Medium to High Speed turning

Suggested Lathe
- CNC Machine Center



Axial / Thrust and Radial / Weight Load

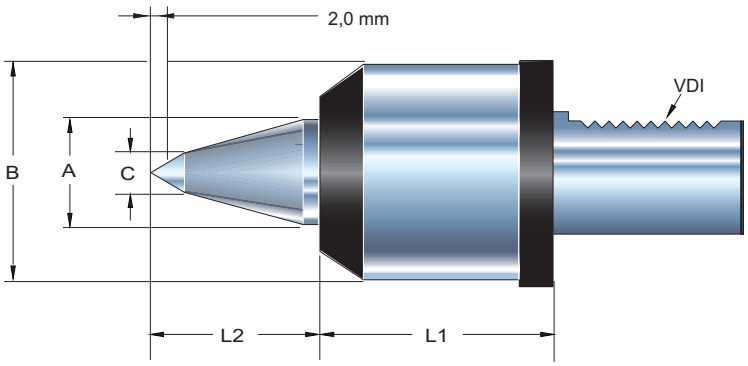




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For Precision
General Turning

Precision Spring Loaded Live Center with 60º Extended Large Steel Point & VDI Shank



60º Extended Large Steel Point

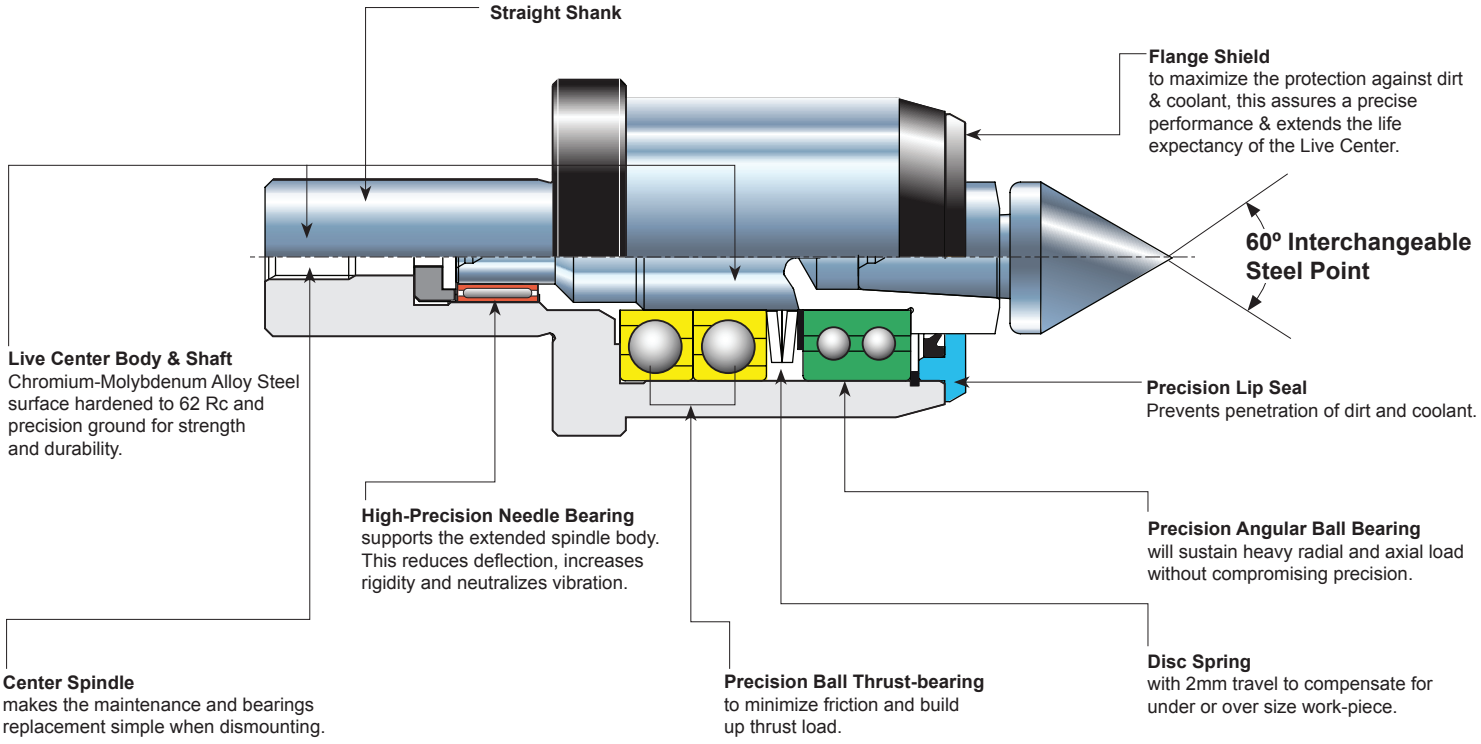
UPC 733101-	Description	System	A	B	C	L1	L2	VDI	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48397	PLC-CNC-ELSP-VDI-30	in	1.14	2.40	0.31	3.11	2.01	1.18	4.4	5500	1883	1438
		mm	29	61	8	79	51	30	2.0	5500	856	654
48398	PLC-CNC-ELSP-VDI-40	in	1.50	3.15	0.47	3.35	2.20	1.57	8.2	4500	2860	2486
		mm	38	80	12	85	56	40	3.7	4500	1300	1130

Precision Spring Loaded Live Center with 60º Interchangeable Steel Point & Straight Shank | T.I.R. 0.0001

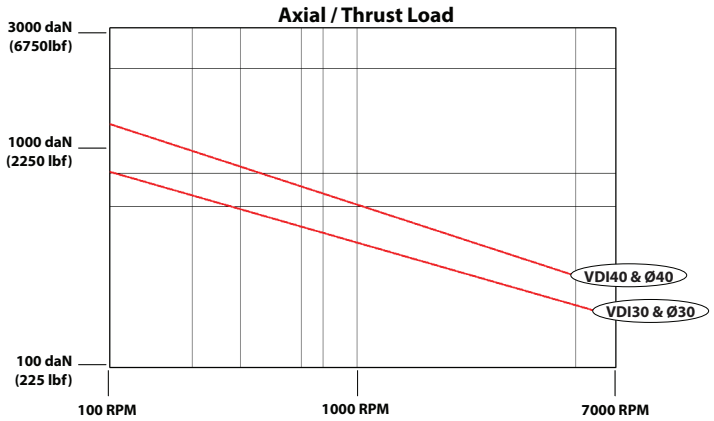
Features
- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

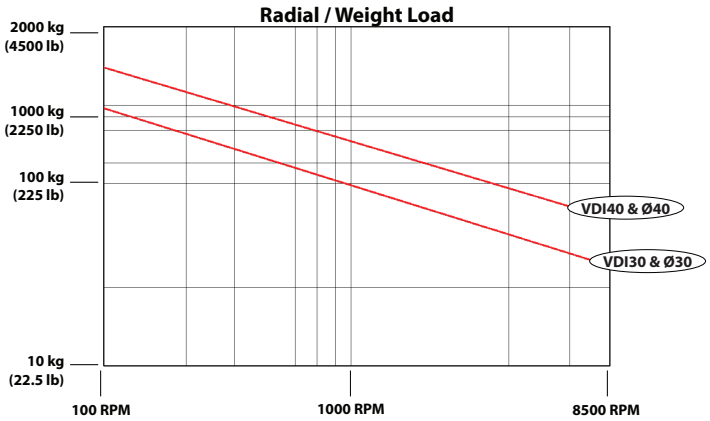
Application
- Finishing to Roughing
- Precision Turning
- Medium to High Speed turning

Suggested Lathe
- CNC Machine Center



Axial / Thrust and Radial / Weight Load

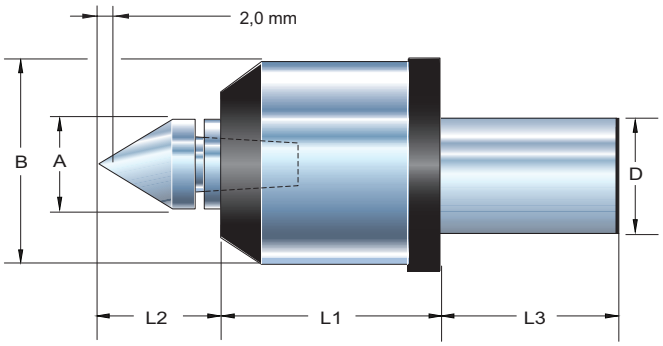




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For Precision
General Turning

Precision Spring Loaded Live Center with 60º Interchangeable Steel Point & Straight Shank



60º Interchangeable Steel Point

UPC 733101-	Description	System	A	B	L1	L2	L3	D	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48475	PLC-CNC-INT-DIA-30	in	1.14	2.40	3.11	1.61	2.17	1.18	4.63	5500	1883	1438
		mm	29	61	79	41	55	30	2.1	5500	856	654
48476	PLC-CNC-INT-DIA-40	in	1.37	3.15	3.35	1.85	2.48	1.57	8.38	4500	2860	2486
		mm	35	80	85	47	63	40	3.8	4500	1300	1130

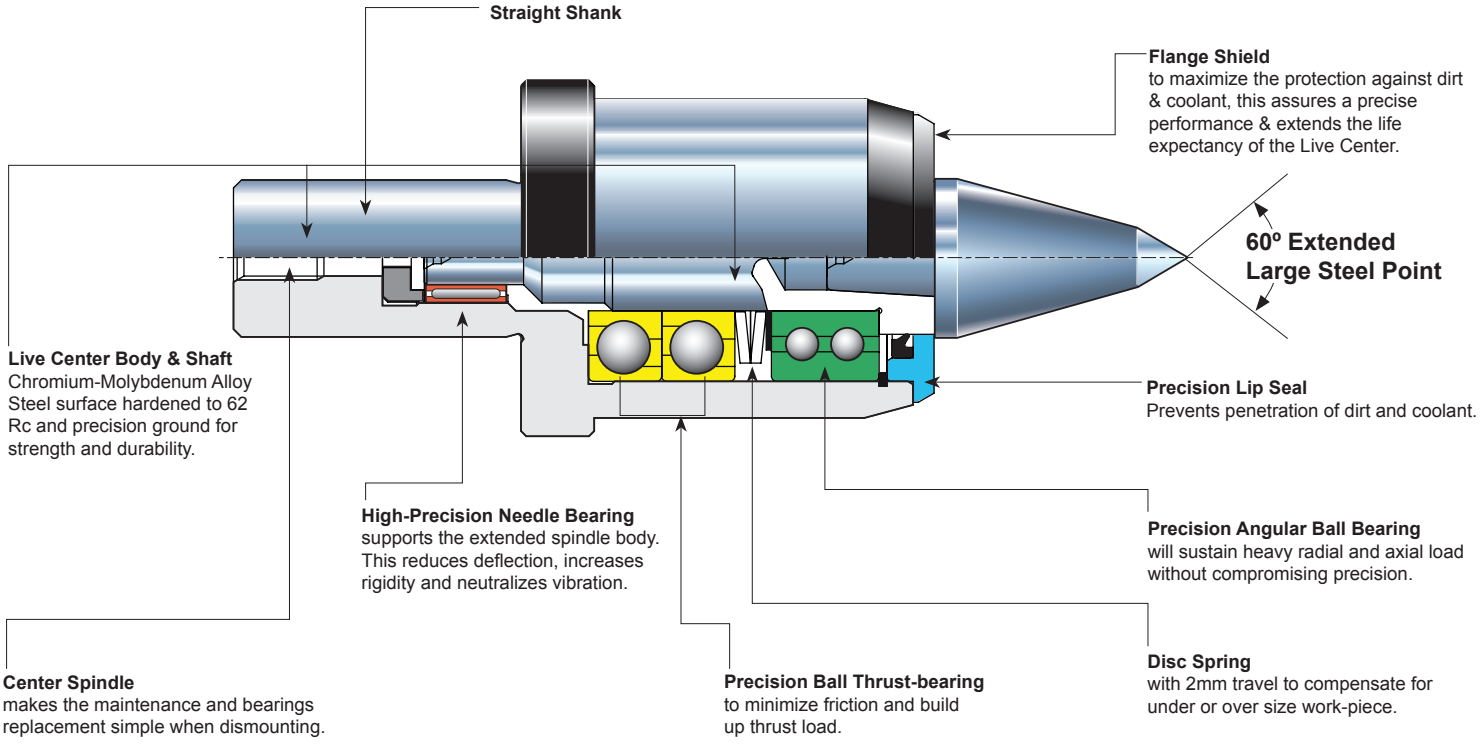
DIA-30 Live Center is supplied with Standard 60° Interchangeable Steel Point (PLCIP-INP-4)
DIA-40 Live Center is supplied with Standard 60° Interchangeable Steel Point (PLCIP-INP-5)
For additional Interchangeable Points see page A-48

Precision Spring Loaded Live Center with 60º Extended Large Steel Point & Straight Shank | T.I.R. 0.0001

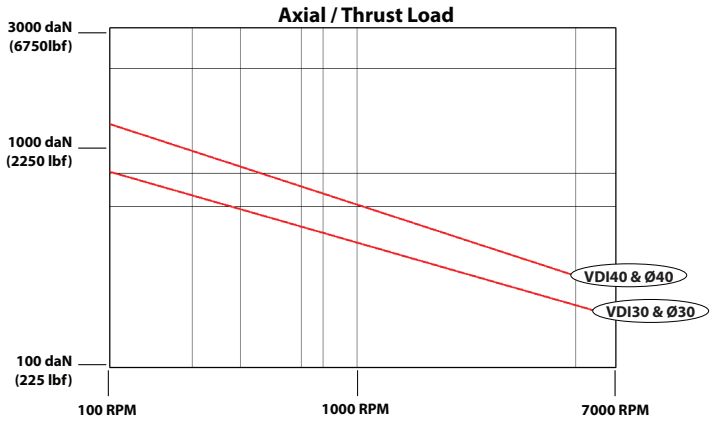
Features
- Precise Concentricity T.I.R. 0.0001
- High Speed Precision Bearings
- Three Permanently Lubricated Bearings
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground

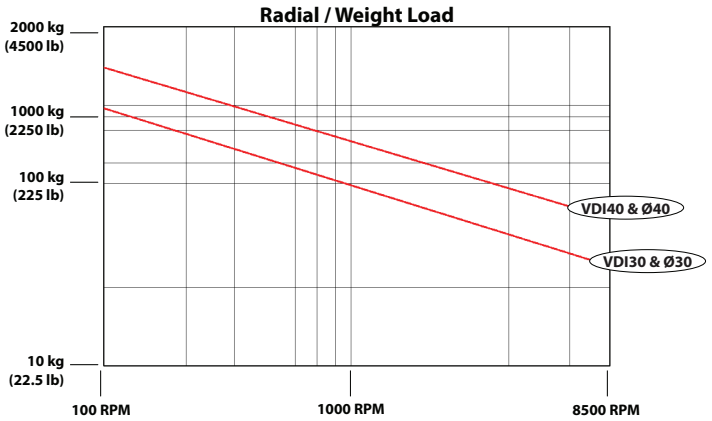
Application
- Finishing to Roughing
- Precision Turning
- Medium to High Speed turning

Suggested Lathe
- CNC Machine Center



Axial / Thrust and Radial / Weight Load

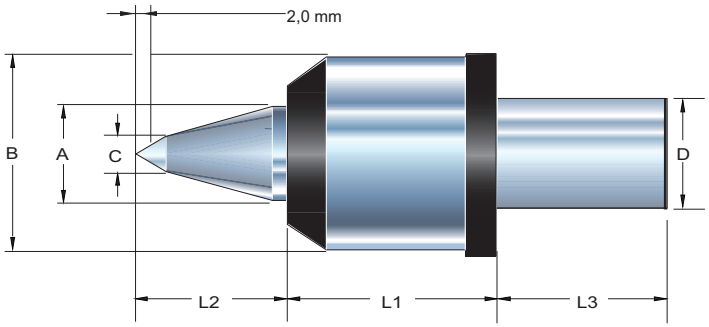




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For Precision
General Turning

Precision Spring Loaded Live Center with 60º Extended Large Steel Point & Straight Shank



60º Extended Large Steel Point

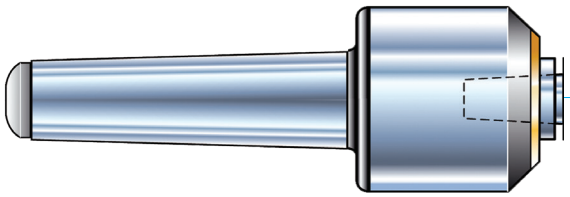
UPC 733101-	Description	System	A	B	C	L1	L2	L3	D	Weight (lb)/(kg)	Max. RPM	Max. workpiece Weight (lb)/(kg)	Max. Thrust load (lb)/(daN)
48477	PLC-CNC-ELSP-DIA-30	in	1.14	2.40	0.31	3.11	2.01	2.17	1.18	4.63	5500	1883	1438
		mm	29	61	8	79	51	55	30	2.1	5500	856	654
48478	PLC-CNC-ELSP-DIA-40	in	1.50	3.15	0.47	3.35	2.21	2.48	1.57	8.38	4500	2860	2486
		mm	38	80	12	85	56	63	40	3.8	4500	1300	1130

CNC High Speed Heavy Duty Live Center 6 Piece Interchangeable Set	T.I.R. 0.0001

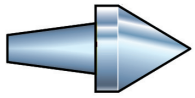
Features	Application	Suggested Lathe
• Precise Concentricity T.I.R. 0.0001	• Roughing & Precision Finishing	• All types of CNC Machine Centers
• High Speed Precision Bearings	• High Precision Turning	• High Precision Manual Lathes
• Three Permanently Lubricated Bearings	• Medium to High Turning Speed	
• Sealed with Lip Seal and Locked with a Flange Shield	• High Performance CNC Turning Application	
• Chromium-Molybdenum Alloy Steel	• Small & Medium Workpiece	
• Surface Heat Treated to 62 Rc and Precision Ground		

Five Interchangeable Points Included in Set:

For Super Precision Turning & Grinding

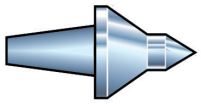


Precision Ground Taper for Interchangeability & Accurate Repeatability!

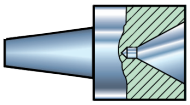


INP — **60º Steel Point** (Supplied)

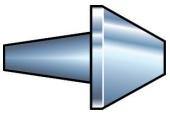
EXP — **Extended Point** (Supplied)



USP — **Undersized Point** (Supplied)

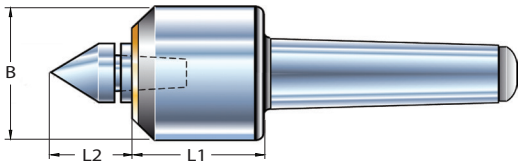


FCUP — **Female Cup** (Supplied)



BNP — **Bull Nose Point** (Sold Separately, Small, Medium & Large Diameter)

CNC High Speed Heavy Duty Live Center 6 Piece Interchangeable Set

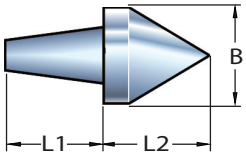


For Five Interchangeable Points

UPC 733101-	Description	System	B	L1	L2*	Morse Taper	Max. RPM	6 Piece Set Includes: 1 Live Center	5 Interchangeable Points				
48300	PLC-CNC-INT-MT3-SET	in	2.17	1.85	1.46	MT3	7000	PLC-CNC-INT-MT3	PLCIP-INP-2-3	PLCIP-USP-2-3	PLCIP-EXP-2-3	PLCIP-FCUP-2-3	PLCIP-SBNP-2-3
		mm	55	47	37	MT3	7000						
48301	PLC-CNC-INT-MT4-SET	in	2.40	2.17	1.59	MT4	5500	PLC-CNC-INT-MT4	PLCIP-INP-4	PLCIP-USP-4	PLCIP-EXP-4	PLCIP-FCUP-4	PLCIP-SBNP-4
		mm	61	55	40.5	MT4	5500						
48302	PLC-CNC-INT-MT5-SET	in	3.15	2.48	1.81	MT5	4500	PLC-CNC-INT-MT5	PLCIP-INP-5	PLCIP-USP-5	PLCIP-EXP-5	PLCIP-FCUP-5	PLCIP-SBNP-5
		mm	80	63	46	MT5	4500						
48303	PLC-CNC-INT-MT6-SET	in	3.66	2.87	2.17	MT6	3200	PLC-CNC-INT-MT6	PLCIP-INP-6	PLCIP-USP-6	PLCIP-EXP-6	PLCIP-FCUP-6	PLCIP-SBNP-6
		mm	93	73	55	MT6	3200						

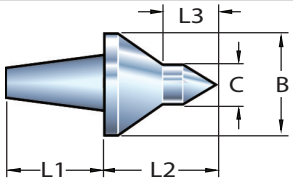
For Center Point Extraction Tool (Supplied) see Page A-49.
*** Dimension are based on 60° Steel Point**

INP Standard Interchangeable Steel Point



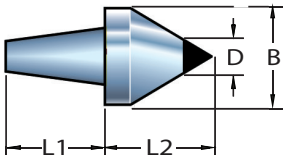
UPC 733101-	Description	System	Fits Body Size	B	L1	L2
48305	PLCIP-INP-2-3	in	2&3	1.06	1.06	1.18
		mm	2&3	27	27	30
48306	PLCIP-INP-4	in	4	1.14	1.14	1.22
		mm	4	29	29	31
48307	PLCIP-INP-5	in	5	1.38	1.18	1.42
		mm	5	35	30	36
48308	PLCIP-INP-6	in	6	1.65	1.30	1.77
		mm	6	42	33	45

USP Undersized Interchangeable Steel Point



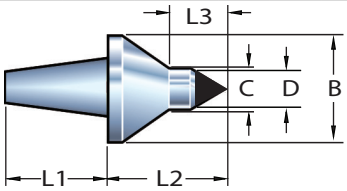
UPC 733101-	Description	System	Fits Body Size	B	C	L1	L2	L3
48313	PLCIP-USP-2-3	in	2&3	0.98	0.47	1.06	1.34	0.63
		mm	2&3	25	12	27	34	16
48314	PLCIP-USP-4	in	4	1.14	0.47	1.14	1.46	0.63
		mm	4	29	12	29	37	16
48315	PLCIP-USP-5	in	5	1.38	0.59	1.18	1.65	0.75
		mm	5	35	15	30	42	19
48316	PLCIP-USP-6	in	6	1.65	0.79	1.30	2.13	0.98
		mm	6	42	20	33	54	25

INCP Standard Interchangeable Steel Point with Carbide



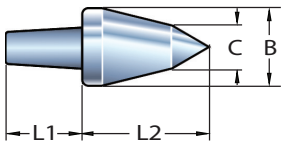
UPC 733101-	Description	System	Fits Body Size	B	D	L1	L2
48309	PLCIP-IN-CP-2-3	in	2 &3	1.06	0.39	1.06	1.18
		mm	2 &3	27	10	27	30
48310	PLCIP-INCP-4	in	4	1.14	0.47	1.14	1.22
		mm	4	29	12	29	31
48311	PLCIP-INCP-5	in	5	1.38	0.55	1.18	1.42
		mm	5	35	14	30	36
48312	PLCIP-INCP-6	in	6	1.65	0.55	1.30	1.77
		mm	6	42	14	33	45

USCP Undersized Interchangeable Steel Point with Carbide



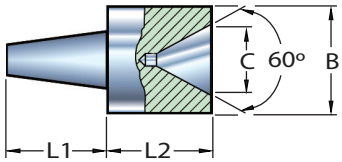
UPC 733101-	Description	System	Fits Body Size	B	C	D	L1	L2	L3
48321	PLCIP-USCP-2-3	in	2 &3	0.98	0.47	0.28	1.06	1.34	0.63
		mm	2 &3	25	12	7	27	34	16
48322	PLCIP-USCP-4	in	4	1.14	0.47	0.31	1.14	1.46	0.63
		mm	4	29	12	8	29	37	16
48323	PLCIP-USCP-5	in	5	1.38	0.59	0.47	1.18	1.65	0.75
		mm	5	35	15	12	30	42	19
48324	PLCIP-USCP-6	in	6	1.65	0.79	0.47	1.30	2.13	0.98
		mm	6	42	20	12	33	54	25

EXP Extended Interchangeable Steel Point



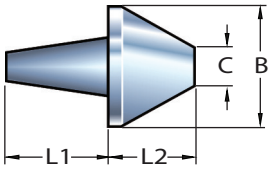
UPC 733101-	Description	System	Fits Body Size	B	C	L1	L2
48325	PLCIP-EXP-2-3	in	2&3	0.98	0.32	1.06	1.77
		mm	2&3	25	8	27	45
48326	PLCIP-EXP-4	in	4	1.14	0.39	1.14	1.97
		mm	4	29	10	29	50
48327	PLCIP-EXP-5	in	5	1.38	0.47	1.18	2.32
		mm	5	35	12	30	59
48328	PLCIP-EXP-6	in	6	1.65	0.47	1.30	2.95
		mm	6	42	12	33	75

FCUP Female Cup Interchangeable Steel Point



UPC 733101-	Description	System	Fits Body Size	B	C	L1	L2
48329	PLCIP-FCUP-2-3	in	2&3	1.14	0.91	1.06	1.18
		mm	2&3	29	23	27	30
48330	PLCIP-FCUP-4	in	4	1.14	0.91	1.14	1.18
		mm	4	29	23	29	30
48331	PLCIP-FCUP-5	in	5	1.38	1.06	1.18	1.38
		mm	5	35	27	30	35
48332	PLCIP-FCUP-6	in	6	1.46	1.06	1.30	1.38
		mm	6	37	27	33	35

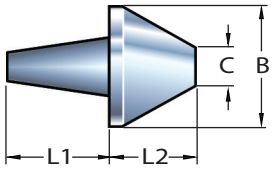
SBNP Bull Nose Interchangeable Steel Point



Small

UPC 733101-	Description	System	Fits Body Size	B	C	L1	L2
48333	PLCIP-SBNP-2-3	in	2&3	2.32	1.02	1.06	1.38
		mm	2&3	59	26	27	35
48334	PLCIP-SBNP-4	in	4	2.32	1.02	1.14	1.38
		mm	4	59	26	29	35
48335	PLCIP-SBNP-5	in	5	2.32	1.02	1.18	1.38
		mm	5	59	26	30	35
48336	PLCIP-SBNP-6	in	6	2.32	1.02	1.30	1.38
		mm	6	59	26	33	35

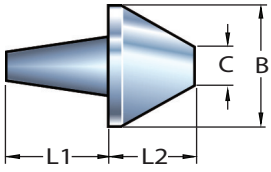
MBNP Bull Nose Interchangeable Steel Point



Medium

UPC 733101-	Description	System	Fits Body Size	B	C	L1	L2
48337	PLCIP-MBNP-2-3	in	2&3	3.07	1.81	1.06	1.38
		mm	2&3	78	46	27	35
48338	PLCIP-MBNP-4	in	4	3.07	1.81	1.14	1.38
		mm	4	78	46	29	35
48339	PLCIP-MBNP-5	in	5	3.07	1.81	1.18	1.38
		mm	5	78	46	30	35
48340	PLCIP-MBNP-6	in	6	3.07	1.81	1.30	1.38
		mm	6	78	46	33	35

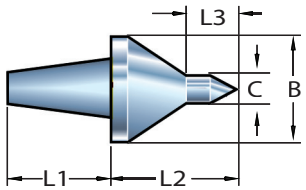
LBNP Bull Nose Interchangeable Steel Point



Large

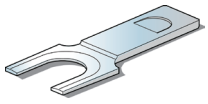
UPC 733101-	Description	System	Fits Body Size	B	C	L1	L2
48341	PLCIP-LBNP-2-3	in	2&3	3.86	2.60	1.06	1.38
		mm	2&3	98	66	27	35
48342	PLCIP-LBNP-4	in	4	3.86	2.60	1.14	1.38
		mm	4	98	66	29	35
48343	PLCIP-LBNP-5	in	5	3.86	2.60	1.18	1.38
		mm	5	98	66	30	35
48344	PLCIP-LBNP-6	in	6	3.86	2.60	1.30	1.38
		mm	6	98	66	33	35

MSP Mini Sized Steel Point

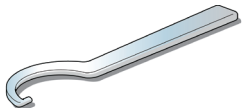


UPC 733101-	Description	System	Fits Body Size	B	C	L1	L2	L3
48317	PLCIP-MSP-2-3	in	2 &3	0.98	0.28	1.06	1.33	0.47
		mm	2 &3	25	7	27	34	12
48318	PLCIP-MSP-4	in	4	1.14	0.28	1.14	1.45	0.47
		mm	4	29	7	29	37	12
48319	PLCIP-MSP-5	in	5	1.38	0.28	1.18	1.65	0.47
		mm	5	35	7	30	42	12
48320	PLCIP-MSP-6	in	6	1.65	0.47	1.30	2.12	0.71
		mm	6	42	12	33	54	18

Wrenches



Center Point Extraction Tool



CNC Lock Nut Wrench

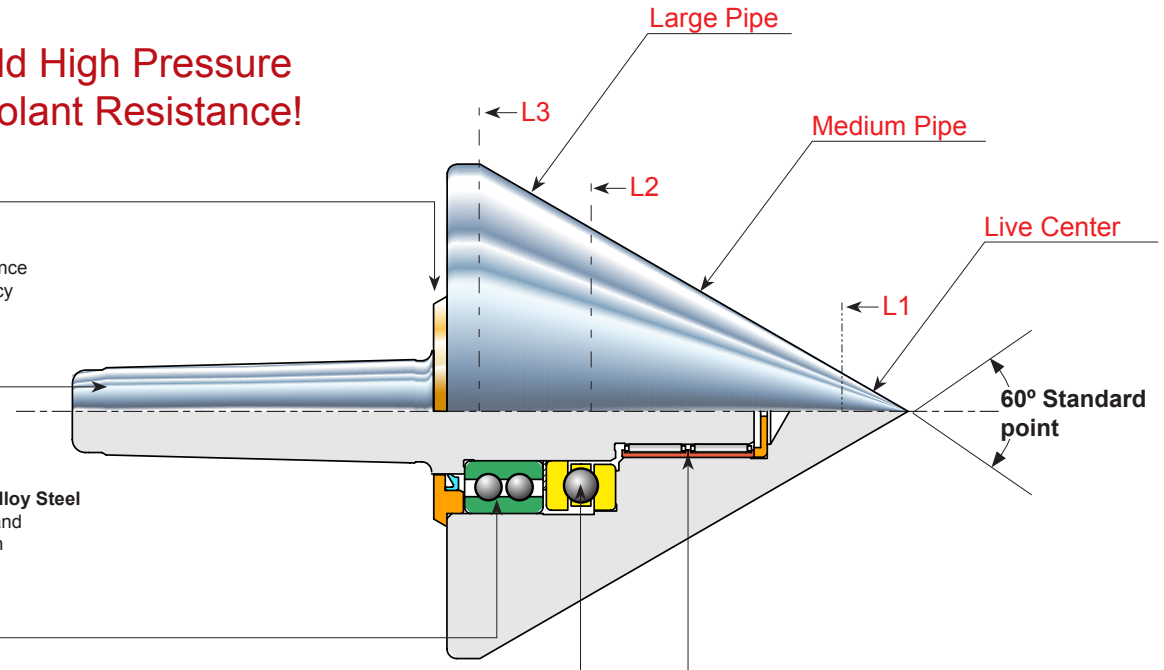
UPC 733101-	**Center Point Extraction** Tool Description	Fits Body Size
48345	PLCIP-CPEW-2-3	MT2-3
48346	PLCIP-CPEW-4	MT4
48347	PLCIP-CPEW-5	MT5
48348	PLCIP-CPEW-6	MT6

UPC 733101-	**CNC Lock Nut** Wrench Description	Fits Body Size
48349	PLCIP-LNW-30SP	MT2-3
48350	PLCIP-LNW-40SP	MT4
48351	PLCIP-LNW-50SP	MT5

Precision Live Pipe Center	T.I.R. .0001"

Features	Application	Suggested Lathe
• Precision Concentricity T.I.R .0001"	• Multi Purpose Applications	• Small Manual Lathe
• High Precision Double Needle Bearings	• Live Center	• Medium Manual Lathe
• Precision Angular Ball Bearing	• Large Live Pipe Center	• Small CNC Lathe
• Precision Ball Thrust Bearing	• Medium Live Pipe Center	• Medium CNC Lathe

Double Shield High Pressure Coolant Resistance!



Flange Shield
to maximize protection against dirt & coolant. This ensures a precise performance & extends the life expectancy of the Live Center.

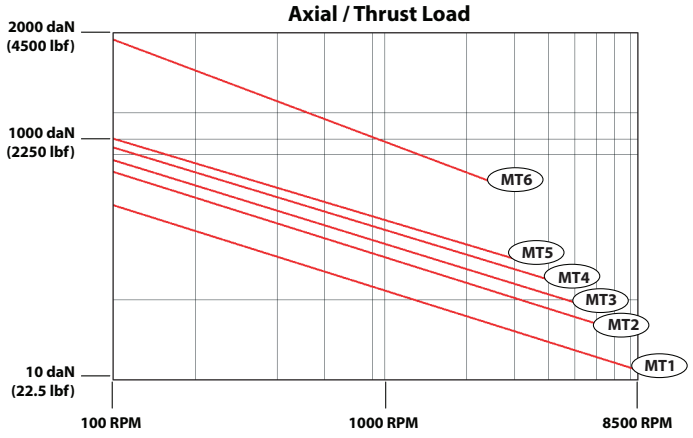
Chromium-Molybdenum Alloy Steel
surface hardened to 62 Rc and precision ground for strength and durability.

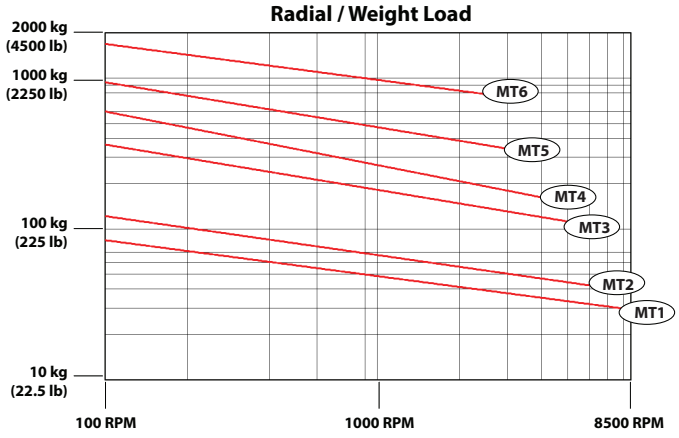
Precision Angular Ball Bearing
will sustain heavy radial and axial load without compromising precision.

Precision Ball Thrust-bearing
to minimize friction and build up thrust load.

High-Precision Double Needle Bearings
support the shaft. This reduces deflection, increases rigidity and neutralize vibration.

Axial / Thrust and Radial / Weight Load

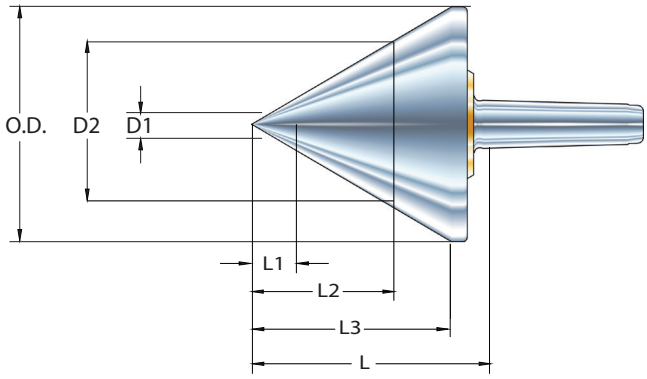




Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

For Super Precision
Turning & Grinding

Precision Live Pipe Center

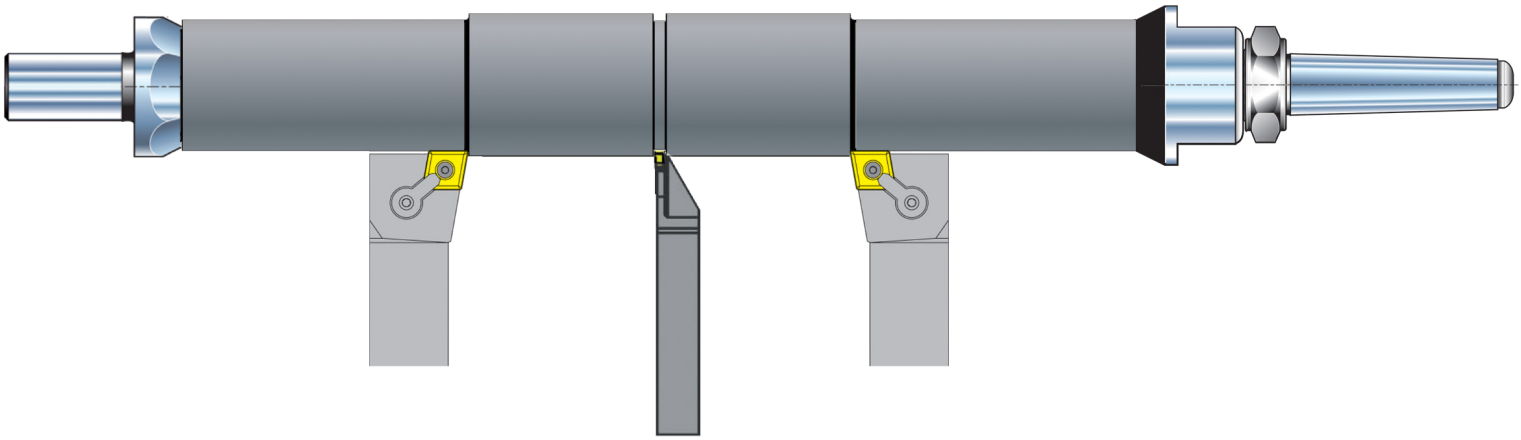


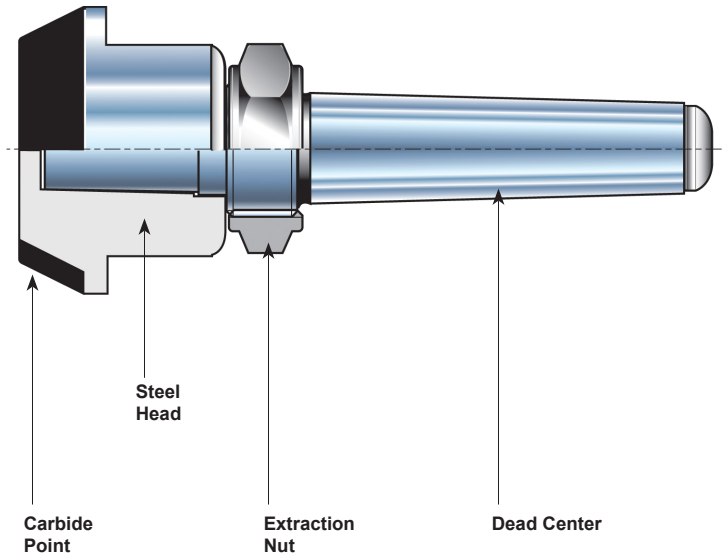
UPC 733101-	Description	System	O.D.	D1	D2	L	L1	L2	L3	Morse Taper	Weight (lb)/(kg)	Max RPM	Max workpiece weight at L1 (lb)/(kg)	Max workpiece weight at L2 (lb)/(kg)	Max workpiece weight at L3 (lb)/(kg)	Max Thrust load (lb/daN)
48393	DPLC-MT2-112	in	5.31	0.55	1.42	5.31	0.47	6.64	4.33	MT2	9.7	4500	238	277	1210	3300
		mm	135	14	36	135	12	31	110	MT2	4.4	4500	108	126	550	1500
48394	DPLC-MT3-112	in	5.31	0.55	1.42	5.31	0.47	6.64	4.33	MT3	12.13	4500	590	686	1650	3300
		mm	135	14	36	135	12	31	110	MT3	5.5	4500	268	312	750	1500
48390	DPLC-MT4-125	in	5.31	0.55	1.42	5.75	0.47	6.64	4.33	MT4	13.22	4000	1320	1430	1760	3300
		mm	135	14	36	135	12	31	110	MT4	6.0	4000	600	650	800	1500
48391	DPLC-MT5-150	in	6.22	0.71	1.73	6.20	0.63	7.19	5.31	MT5	24.25	3600	1980	2266	3630	4840
		mm	158	18	44	146	16	38	135	MT5	11.0	3600	900	1030	1650	2200
48392	DPLC-MT6-150	in	6.22	0.71	1.73	6.25	0.63	7.19	5.31	MT6	43.65	3600	1980	2266	3630	4840
		mm	158	18	44	146	16	38	135	MT6	19.8	3600	900	1030	1650	2200

CNC Integral & CNC Modular Carbide Bull Nose Dead Center	T.I.R. .0001"

Features	Holding Capacity	Suggested Lathe
• Precision Concentricity T.I.R .0001" • Morse Taper Shanks • Precision Integral Carbide Head	From 5mm (.200”) to 90mm (3.5")	• Small CNC Lathe • Medium CNC Lathe

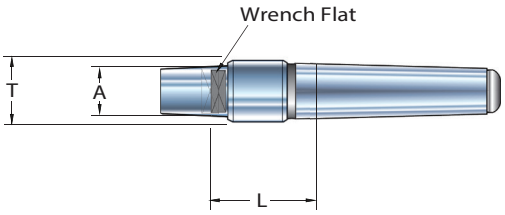
Simple - Rigid - Fast - Precise
CNC Precision Turning Performance!





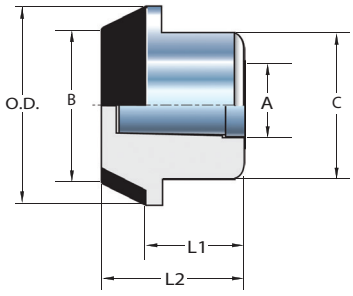
For precise machining, of
small and medium tubing and pipes.

CNC Modular Carbide Bull Nose Dead Center



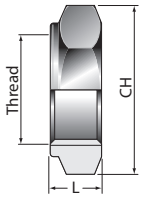
UPC 733101-	Description	System	A	T (Thread)	L	Morse Taper	Concentricity	Weight
48654	PLC-CNC-MCDC-DCM2	in	0.98	M36 x 1.5	1.61	MT2	0.0001	0.99
		mm	25	M36 x 1.5	41	MT2	0.003	0.5
48655	PLC-CNC-MCDC-DCM3	in	0.98	M36 x 1.5	1.61	MT3	0.0001	1.32
		mm	25	M36 x 1.5	41	MT3	0.003	0.6
48656	PLC-CNC-MCDC-DCM4	in	0.98	M36 x 1.5	1.67	MT4	0.0001	1.98
		mm	25	M36 x 1.5	42.5	MT4	0.003	0.9
48657	PLC-CNC-MCDC-DCM5	in	0.98	M48 x 1.5	1.67	MT5	0.0001	4.18
		mm	25	M48 x 1.5	42.5	MT5	0.003	1.9

CNC Modular Carbide Dead Center Head



UPC 733101-	Description	System	A	B	C	O.D.	L1	L2	Concentricity	Weight
48650	PLC-CMDC-H0530	in	0.98	0.20	1.18	1.57	1.57	2.44	0.0001	0.77
		mm	25	5	30	40	40	62	0.003	0.35
48651	PLC-CMDC-H2550	in	0.98	0.98	1.97	1.97	1.34	2.20	0.0001	1.54
		mm	25	25	50	50	34	56	0.003	0.7
48652	PLC-CMDC-H4570	in	0.98	1.77	2.76	2.76	1.34	2.20	0.0001	3.30
		mm	25	45	70	70	34	56	0.003	1.5
48653	PLC-CMDC-H7090	in	0.98	2.56	3.54	3.54	1.34	2.20	0.0001	5.94
		mm	25	65	90	90	34	56	0.003	2.7

Extractor Nut

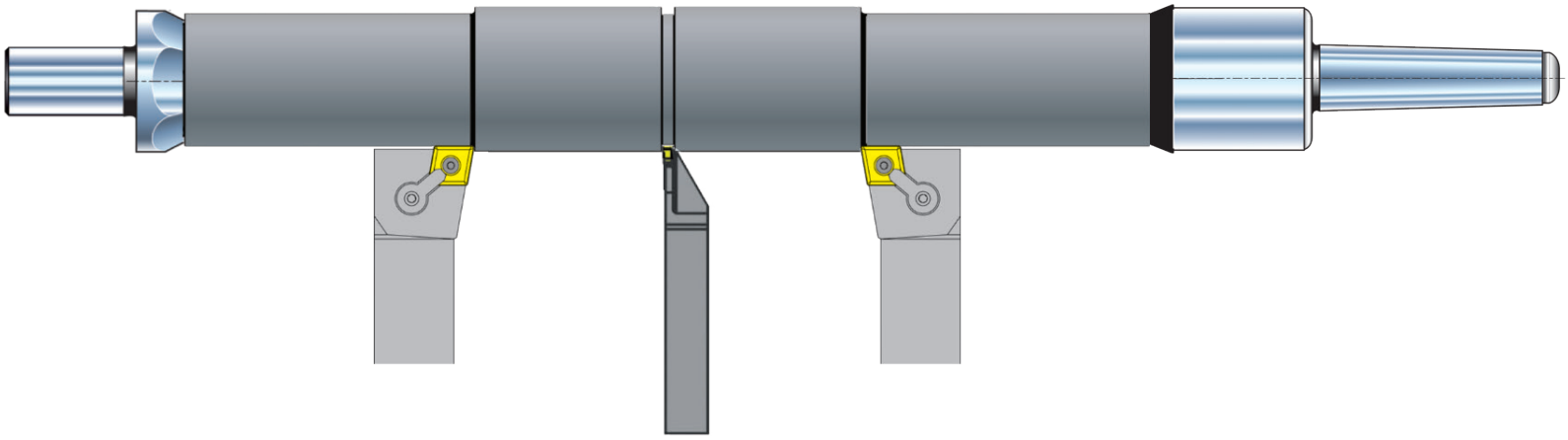


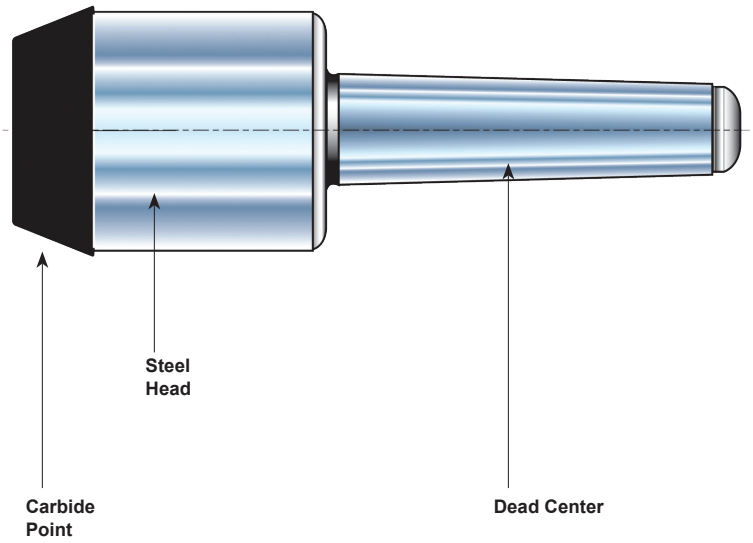
UPC 733101-	Description	System	L	M Thread	CH Wrench Flats	Weight (lb)/(kg)
48449	PLC-CNC-DCEN-36	in	1.18	M36 x 1.5	2.17	0.77
		mm	30	M36 x 1.5	55	0.35
48451	PLC-CNC-DCEN-48	in	1.18	M48 x 1.5	2.76	1.10
		mm	30	M48 x 1.5	70	0.5

CNC Integral & CNC Modular Carbide Bull Nose Dead Center	T.I.R. .0001"

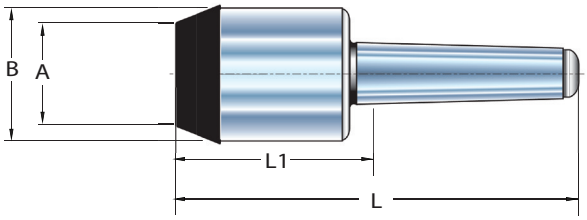
Features	Holding Capacity	Suggested Lathe
• Precision Concentricity T.I.R .0001" • Morse Taper Shanks • Precision Integral Carbide Head • Precision Ball Thrust Bearing	From 5mm (.200”) to 80mm (3.15")	• Small CNC Lathe • Medium CNC Lathe

Simple - Rigid - Fast - Precise
CNC Precision Turning Performance!





CNC Integral Carbide Bull Nose Dead Center



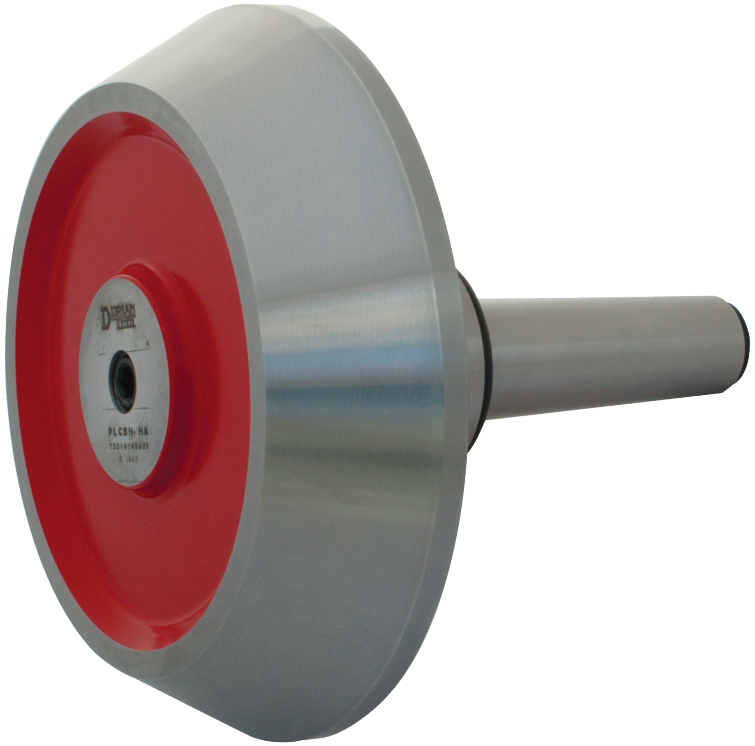
For precise machining, of small and medium tubing and pipes.

UPC 733101-	Description	System	A	B	L	L1	Morse Taper	Concentricity	Weight
48658	PLC-CPDC-MT2-0530	in	0.20	1.18	4.49	1.97	MT2	0.0002	0.66
		mm	5	30	114	50	MT2	0.005	0.30
48659	PLC-CPDC-MT2-1540	in	0.59	1.57	4.49	1.97	MT2	0.0002	0.66
		mm	15	40	114	50	MT2	0.005	0.30
48660	PLC-CPDC-MT2-2550	in	0.98	1.97	4.49	1.97	MT2	0.0002	0.88
		mm	25	50	114	50	MT2	0.005	0.40
48661	PLC-CPDC-MT3-0530	in	0.20	1.18	5.16	1.97	MT3	0.0002	0.88
		mm	5	30	131	50	MT3	0.005	0.40
48662	PLC-CPDC-MT3-1540	in	0.59	1.57	5.16	1.97	MT3	0.0002	1.32
		mm	15	40	131	50	MT3	0.005	0.60
48663	PLC-CPDC-MT3-2550	in	0.98	1.97	5.16	1.97	MT3	0.0002	1.76
		mm	25	50	131	50	MT3	0.005	0.80
48664	PLC-CPDC-MT3-3560	in	1.38	2.36	5.16	1.97	MT3	0.0002	2.64
		mm	35	60	131	50	MT3	0.005	1.20
48665	PLC-CPDC-MT3-4570	in	1.77	2.76	5.16	1.97	MT3	0.0002	3.30
		mm	45	70	131	50	MT3	0.005	1.50
48666	PLC-CPDC-MT4-0530	in	0.20	1.18	6.38	2.36	MT4	0.0002	1.76
		mm	5	30	162	60	MT4	0.005	0.80
48667	PLC-CPDC-MT4-1540	in	0.59	1.57	6.38	2.36	MT4	0.0002	2.20
		mm	15	40	162	60	MT4	0.005	1.00
48668	PLC-CPDC-MT4-2550	in	0.98	1.97	6.38	2.36	MT4	0.0002	2.86
		mm	25	50	162	60	MT4	0.005	1.30
48669	PLC-CPDC-MT4-3560	in	1.38	2.36	6.38	2.36	MT4	0.0002	3.52
		mm	35	60	162	60	MT4	0.005	1.60
48670	PLC-CPDC-MT4-4570	in	1.77	2.76	6.38	2.36	MT4	0.0002	4.62
		mm	45	70	162	60	MT4	0.005	2.10
48671	PLC-CPDC-MT4-5580	in	2.17	3.15	6.38	2.36	MT4	0.0002	5.50
		mm	55	80	162	60	MT4	0.005	2.50
48672	PLC-CPDC-MT5-0530	in	0.20	1.18	7.87	2.76	MT5	0.0002	3.74
		mm	5	30	200	70	MT5	0.005	1.70
48673	PLC-CPDC-MT5-1540	in	0.59	1.57	7.87	2.76	MT5	0.0002	4.40
		mm	15	40	200	70	MT5	0.005	2.00
48674	PLC-CPDC-MT5-2550	in	0.98	1.97	7.87	2.76	MT5	0.0002	5.06
		mm	25	50	200	70	MT5	0.005	2.30
48675	PLC-CPDC-MT5-3560	in	1.38	2.36	7.87	2.76	MT5	0.0002	6.16
		mm	35	60	200	70	MT5	0.005	2.80
48676	PLC-CPDC-MT5-4570	in	1.77	2.76	7.87	2.76	MT5	0.0002	7.04
		mm	45	70	200	70	MT5	0.005	3.20
48677	PLC-CPDC-MT5-5580	in	2.17	3.15	7.87	2.76	MT5	0.0002	7.70
		mm	55	80	200	70	MT5	0.005	3.50
48678	PLC-CPDC-MT6-0530	in	0.20	1.18	10.12	2.95	MT6	0.0002	16.06
		mm	5	30	257	75	MT6	0.005	7.30
48679	PLC-CPDC-MT6-1540	in	0.59	1.57	10.12	2.95	MT6	0.0002	17.60
		mm	15	40	257	75	MT6	0.005	8.00
48680	PLC-CPDC-MT6-2550	in	0.98	1.97	10.12	2.95	MT6	0.0002	19.14
		mm	25	50	257	75	MT6	0.005	8.70
48681	PLC-CPDC-MT6-3560	in	1.38	2.36	10.12	2.95	MT6	0.0002	20.46
		mm	35	60	257	75	MT6	0.005	9.30
48682	PLC-CPDC-MT6-4570	in	1.77	2.76	10.12	2.95	MT6	0.0002	22.00
		mm	45	70	257	75	MT6	0.005	10.00
48683	PLC-CPDC-MT6-5580	in	2.17	3.15	10.12	2.95	MT6	0.0002	23.32
		mm	55	80	257	75	MT6	0.005	10.60

Extra Heavy Duty
Modular Bull Nose System

Built for the

Petroleum Industry

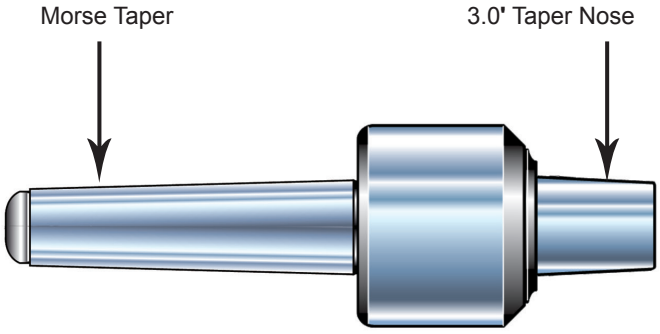


Engineered and Built to Deliver Performance and Reliability, Second to None.

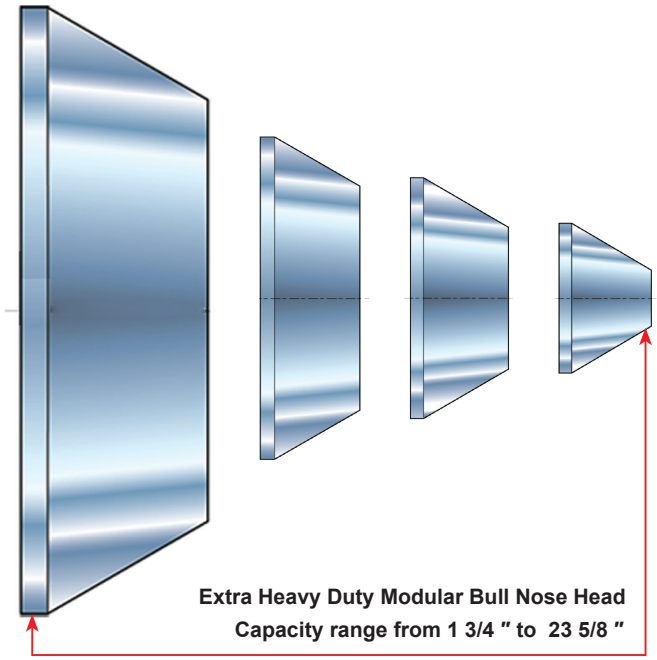
The Dorian Perfetta™ Modular Bull Nose live center is recognized in Europe and the rest of the industrial world for its outstanding performance and has over 50 years of ***proven use in the harsh Petroleum field's environment.***

The Dorian Perfetta™ Modular Bull Nose live center has been engineered with the most precise European workmanship and is held to a very strict quality control process. The tools are manufactured from a Chromium-Molybdenum alloy steel, which has been ***heat-treated to 62 Rc surface hardness*** and precisely ground to yield high strength and long working life. The bearings used are carefully selected for use in heavy turning applications and the holding of massive parts while giving the ability to sustain a heavy radial and ***axial thrust load up to 6600.00 lbs***. Two precise needle bearings located on the rear of the Center Spindle, minimize any spindle deflection, maximize the ***work piece weight supporting up to 19800.00 lbs.*** and neutralizes any turning vibration. To protect and extend the life of the tool, the bearings are permanently lubricated with a special light weight oil, and hermetically sealed with a press fit shield and a neoprene leap seal. The Dorian Perfetta™ Modular Bull Nose live center is ***continuously improving*** to meet the more ever demanding needs of today's industry standards.

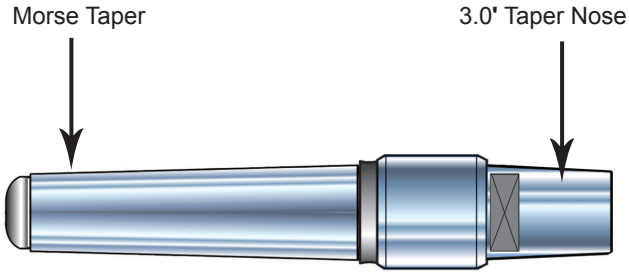
The Dorian Perfetta™ Modular Bull Nose live centers ***have a capacity range from 1-7/8" to 23-5/8 " and are available in 3, 4, 5 and 6 extra heavy duty Morse taper size.*** The Bull Heads are easily removed from the precision taper nose with an extractor screw to ensure that no damage is done to the taper surface of the Bull Nose or Bull Head cavity.



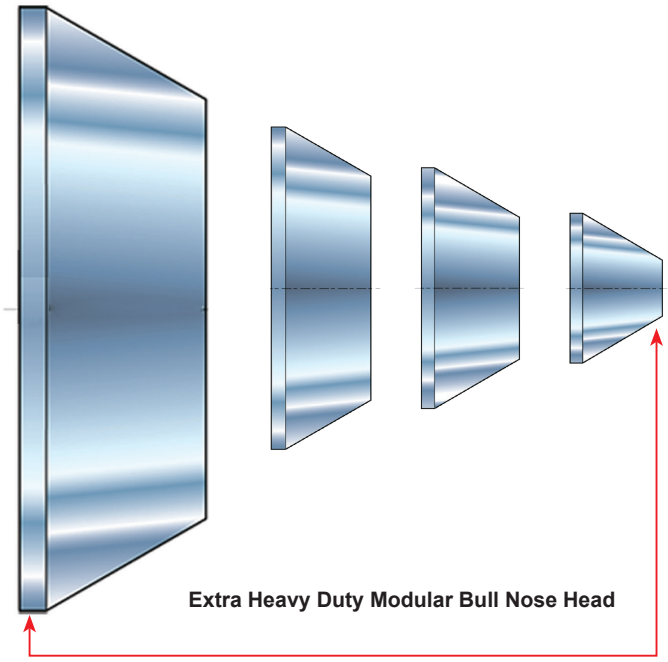
Extra Heavy Duty Modular Bull Nose Live Center



Extra Heavy Duty Modular Bull Nose Head
Capacity range from 1 3/4 " to 23 5/8 "



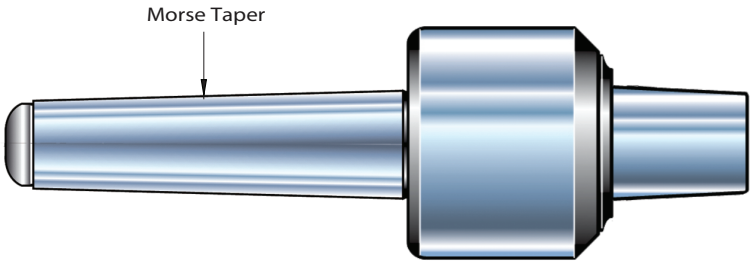
CNC Bull Nose Extra Heavy Duty Modular Dead Center



Extra Heavy Duty Modular Bull Nose Head

PLC - Perfetta™ Live Center

PLCBN - Perfetta™ Live Center Bull Nose



MT1 - Morse Taper 1

MT2 - Morse Taper 2

MT3 - Morse Taper 3

MT4 - Morse Taper 4

MT5 - Morse Taper 5

MT6 - Morse Taper 6

MT6X - Morse Taper 6 Extra Heavy Duty

1. Style | **3. Size**

1 3

PLC- HDA- MT3- 0177-0386

2 4

2. Class

HDA - Heavy Duty Application

BN - Bull Nose

HA- Head Adapter

BNDC - Bull Nose Dead Center

CNC - Precision for CNC Machining

4. Capacity Range

0.18"-3.86"

3.74"-5.83"

5.71"-7.80"

7.68"-9.77"

9.65"-11.74"

11.62"-13.71"

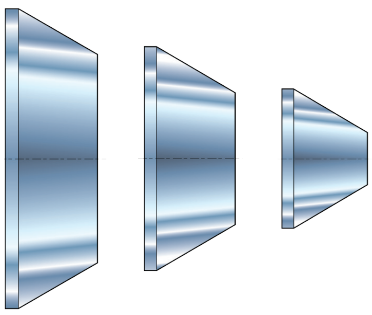
13.59"-15.68"

15.56"-17.65"

17.53"-19.63"

19.50"-21.47"

21.47"-23.64"



Extra Heavy Duty Modular Bull Nose Live Center | T.I.R. .00015"

Features

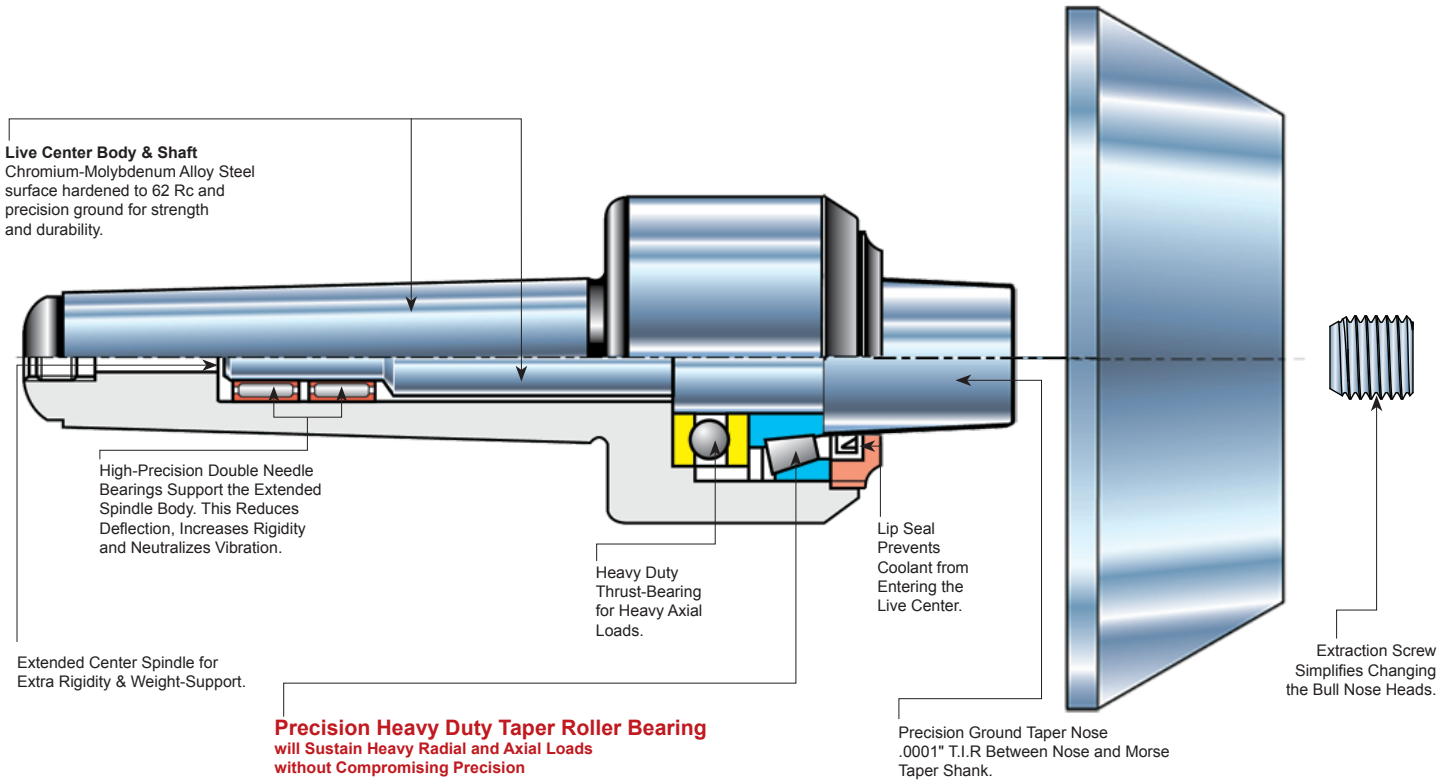
- Precise Concentricity T.I.R. .00015"
- Heavy Duty Precision Bearings System
- Permanently lubricated Bearings
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground
- Modular Taper Heads, capacity ranges from 1.77" to 23.64"
- Especially built for Oil Country Lathe and CNC Machine Center

Application

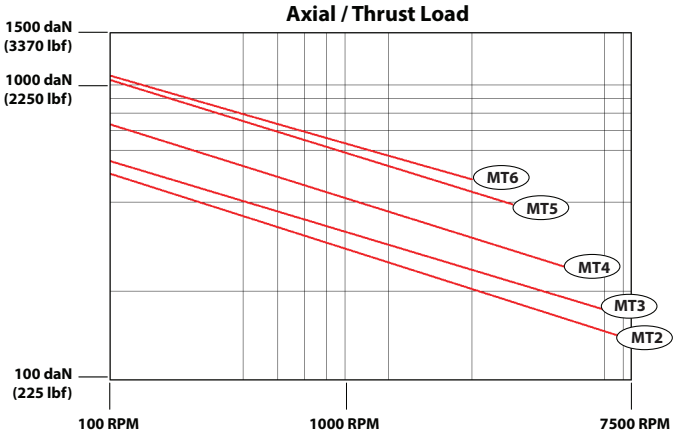
- For Turning & Threading Pipes & Tubing
- Extra Heavy Duty Roughing & Finishing Operations
- Low to Medium RPM and High Thrust Load
- High Performance Turning Application
- Medium to Heavy Workpiece
- Quick loading and Unloading of the Workpiece

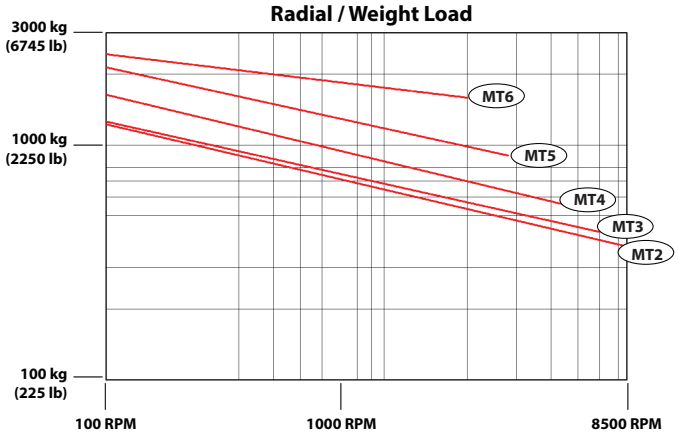
Suggested Lathe

- All types of CNC Machine Centers
- Manual Lathes



Axial / Thrust and Radial / Weight Load





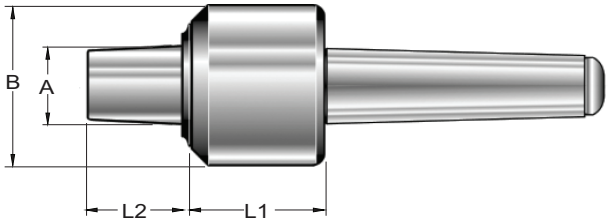
Axial & Radial load is based on 2000 working hours (1 daN =2.248 lbf) (1kg= 2.248 lb)

Extra Heavy Duty Modular
Bull Nose Head
(Sold Separately)

Extra Heavy Duty Modular
Bull Nose Live Center

For Extra Heavy Duty Roughing & Finishing

Extra Heavy Duty Modular Bull Nose Live Center



UPC 733101-	Description	System	A	B	L1	L2	Morse Taper	Weight (lb)/(kg)	Max. RPM	Max. workpiece Load (lb)/(daN)	Max. Thrust load (lb)/(daN)
48400	PLC-HDA-BN-MT3	in	1.38	2.17	1.69	1.69	MT3	2.20	6000	2090	1144
		mm	35	55	43	43	MT3	1.0	6000	950	520
48401	PLC-HDA-BN-MT4	in	1.38	2.40	2.01	1.69	MT4	3.52	4500	3300	1320
		mm	35	61	51	43	MT4	1.6	4500	1500	600
48402	PLC-HDA-BN-MT5	in	1.38	3.15	2.32	1.69	MT5	7.70	2800	4400	2640
		mm	35	80	59	43	MT5	3.5	2800	2000	1200
48403	PLC-HDA-BN-MT6	in	1.38	4.26	3.47	1.73	MT6	22.0	2000	10560	3300
		mm	35	108	88	44	MT6	10.0	2000	4800	1500
48404	PLC-HDA-BN-MT6X	in	1.38	5.44	4.57	1.73	MT6*	26.4	1700	19800	6600
		mm	35	138	116	44	MT6*	12.0	1700	9000	3000

For Extra Heavy Duty Modular Bull Nose Head Sold Separately, see Page A-62. MT6* Extra Heavy Duty Morse Taper.

Extra Heavy Duty Modular Bull Nose Dead Center — T.I.R. .00015"

Features

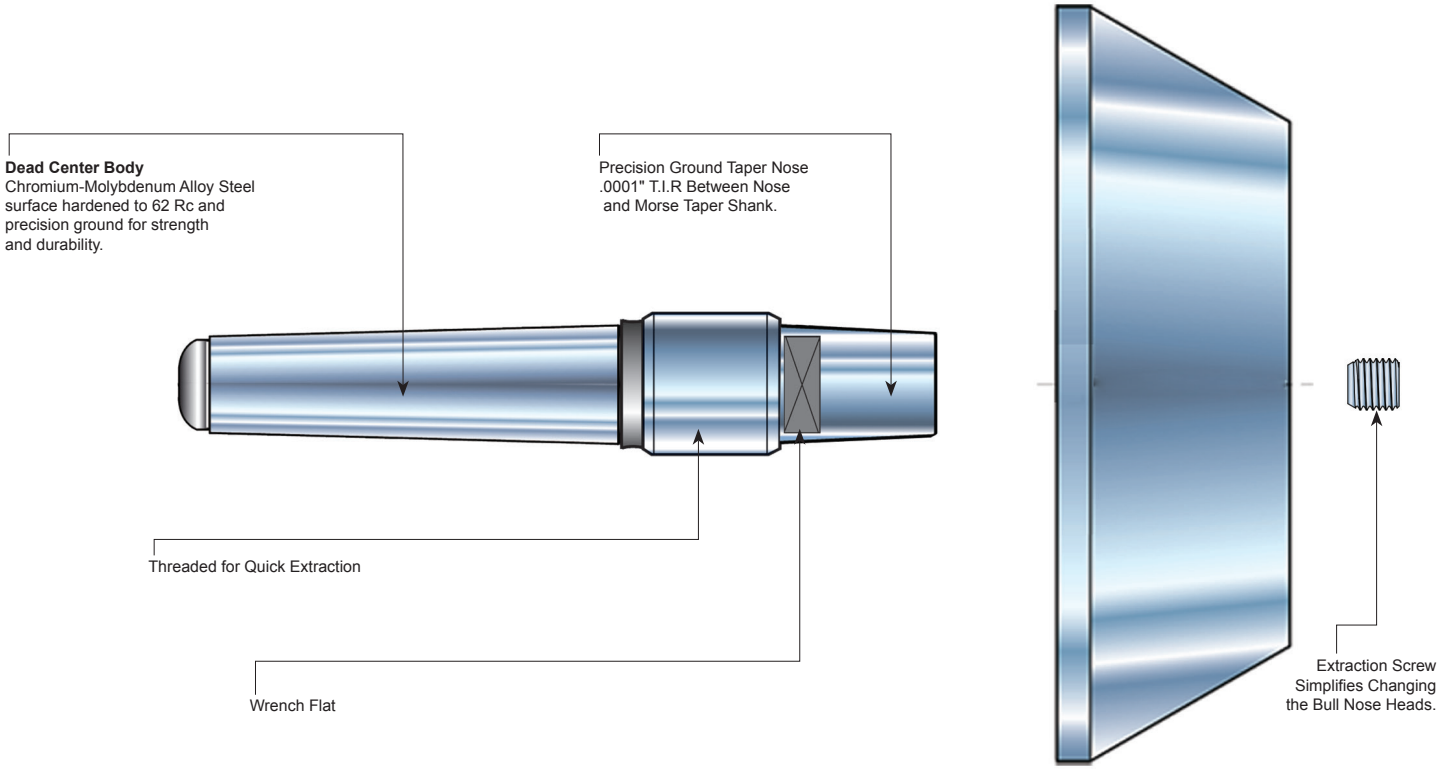
- Precise Concentricity T.I.R. .0005"
- Chromium-Molybdenum Alloy Steel
- Surface Heat Treated to 62 Rc and Precision Ground
- Modular Taper Heads, capacity ranges from 1.77" to 23.64"
- Especially built for Oil Country Lathe and CNC Machine Center

Application

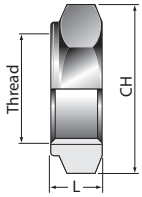
- For Turning & Threading Pipes & Tubing
- Extra Heavy Duty Roughing & Finishing Operations
- Low to Medium RPM and High Thrust Load
- High Performance Turning Application
- Medium to Heavy Workpiece
- Quick loading and Unloading of the Workpiece

Suggested Lathe

- All types of CNC Machine Centers
- Manual Lathes

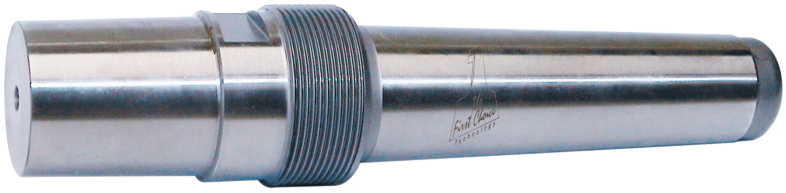


CNC Dead Center Extractor Nut



UPC 733101-	Description	System	L	Thread	CH Wrench Flats	Weight (lb)/(kg)
48449	PLC-CNC-DCEN-36	in	1.18	M36 x 1.5	2.17	0.77
		mm	30	M36 x 1.5	55	0.35
48450	PLC-CNC-DCEN-41	in	0.87	M41 x 1.5	2.17	1.54
		mm	22	M41 x 1.5	55	0.7
48451	PLC-CNC-DCEN-48	in	1.18	M48 x 1.5	2.76	1.10
		mm	30	M48 x 1.5	70	0.5
48452	PLC-CNC-DCEN-68	in	0.87	M68 x 1.5	3.78	1.10
		mm	22	M68 x 1.5	96	0.5

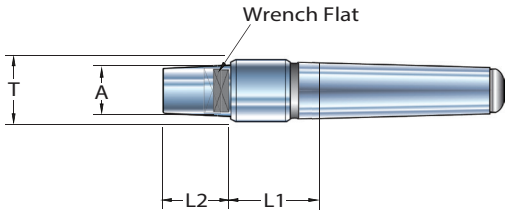
Extra Heavy Duty Modular
Bull Nose Head



CNC Bull Nose Extra Heavy Duty
Modular Dead Center

For Extra Heavy Duty Roughing & Finishing

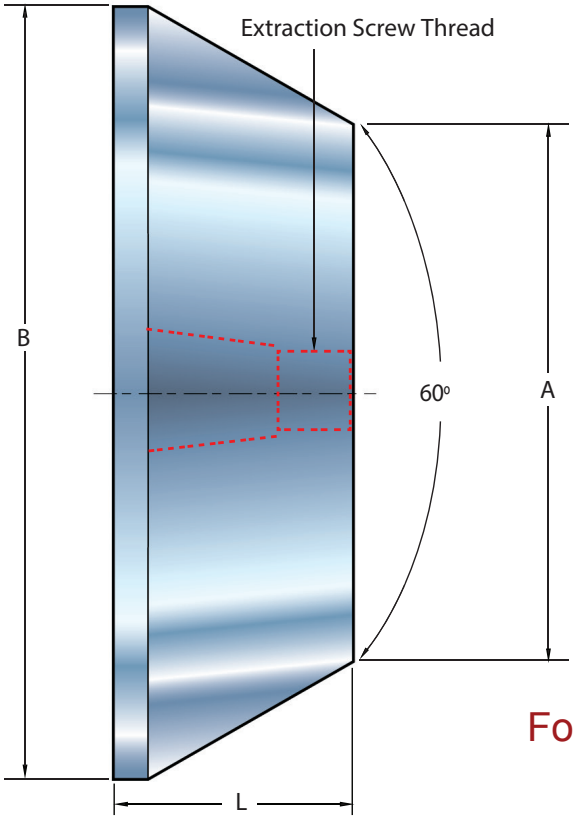
CNC Bull Nose Extra Heavy Duty Modular Dead Center



UPC 733101-	Description	System	A	T (Thread)	L1	L2	Flat Wrench	Morse Taper	Weight (lb)/(kg)
48406	PLC-CNC-BNDC-MT3	in	1.38	M41 x 1.5	1.58	1.69	1.25	MT3	1.60
		mm	35	M41 x 1.5	40	43	32	MT3	0.7
48407	PLC-CNC-BNDC-MT4	in	1.38	M41 x 1.5	1.64	1.69	1.25	MT4	2.42
		mm	35	M41 x 1.5	41.5	43	32	MT4	1.1
48408	PLC-CNC-BNDC-MT5	in	1.38	M48 x 1.5	1.64	1.69	1.25	MT5	4.40
		mm	35	M48 x 1.5	41.5	43	32	MT5	2.0
48409	PLC-CNC-BNDC-MT6	in	1.38	M68 x 1.5	1.70	1.69	1.50	MT6	11.00
		mm	35	M68 x 1.5	43	43	38	MT6	5.0

For Extra Heavy Duty Modular Bull Nose Head see Page A-62. For extractor nut see Page A-62.

Extra Heavy Duty Modular Bull Nose Head



Extraction Screw

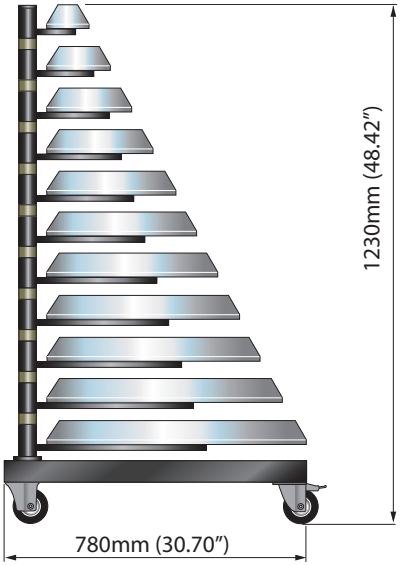
UPC 733101-	Description
48431	PLC-GTS-MT1

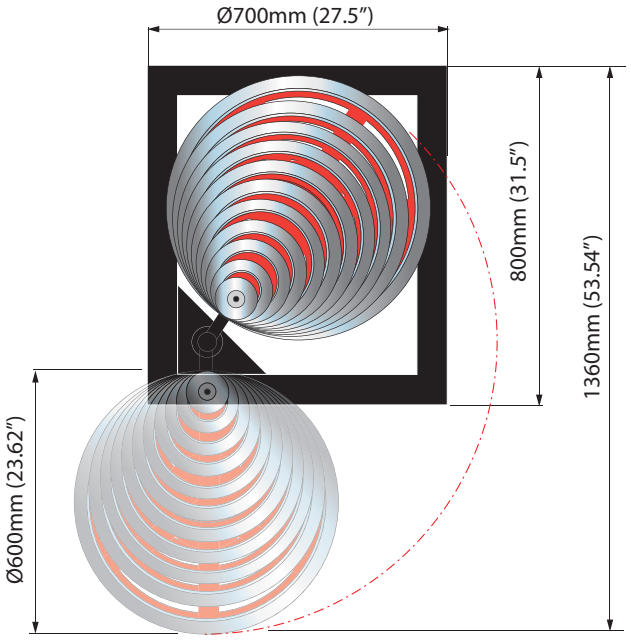
For Extra Heavy Duty Roughing & Finishing

UPC 733101-	Description	System	A	B	L	Extraction Screw	Weight
48420	PLCBN-HA-0177-0386	in	1.77	3.86	2.17	M20 x 1.5	3.52
		mm	45	98	55	M20 x 1.5	1.6
48421	PLCBN-HA-0374-0583	in	3.74	5.83	2.17	M20 x 1.5	8.58
		mm	95	148	55	M20 x 1.5	3.9
48422	PLCBN-HA-0571-0780	in	5.71	7.80	2.17	M20 x 1.5	15.62
		mm	145	198	55	M20 x 1.5	7.1
48423	PLCBN-HA-0768-0977	in	7.68	9.77	2.17	M20 x 1.5	23.54
		mm	195	248	55	M20 x 1.5	10.7
48424	PLCBN-HA-0965-1174	in	9.66	11.74	2.17	M20 x 1.5	33.00
		mm	245	298	55	M20 x 1.5	15.0
48425	PLCBN-HA-1162-1371	in	11.62	13.71	2.17	M20 x 1.5	46.26
		mm	295	348	55	M20 x 1.5	21.0
48426	PLCBN-HA-1359-1568	in	13.59	15.68	2.17	M20 x 1.5	44.0
		mm	345	398	55	M20 x 1.5	20.0
48427	PLCBN-HA-1556-1765	in	15.56	17.65	2.17	M20 x 1.5	63.88
		mm	395	448	55	M20 x 1.5	29.0
48428	PLCBN-HA-1753-1962	in	17.53	19.62	2.17	M20 x 1.5	74.80
		mm	445	498	55	M20 x 1.5	34.0
48429	PLCBN-HA-1950-2147	in	19.50	21.47	2.17	M20 x 1.5	70.40
		mm	495	545	55	M20 x 1.5	32.0
48430	PLCBN-HA-2147-2364	in	21.47	23.64	2.17	M20 x 1.5	79.2
		mm	545	600	55	M20 x 1.5	36.0

Extra Heavy Duty Modular Bull Nose Stand

- Easy To Handle
- Compact Design
- Modular and Flexible
- 11 Supports for Storing Cone Heads



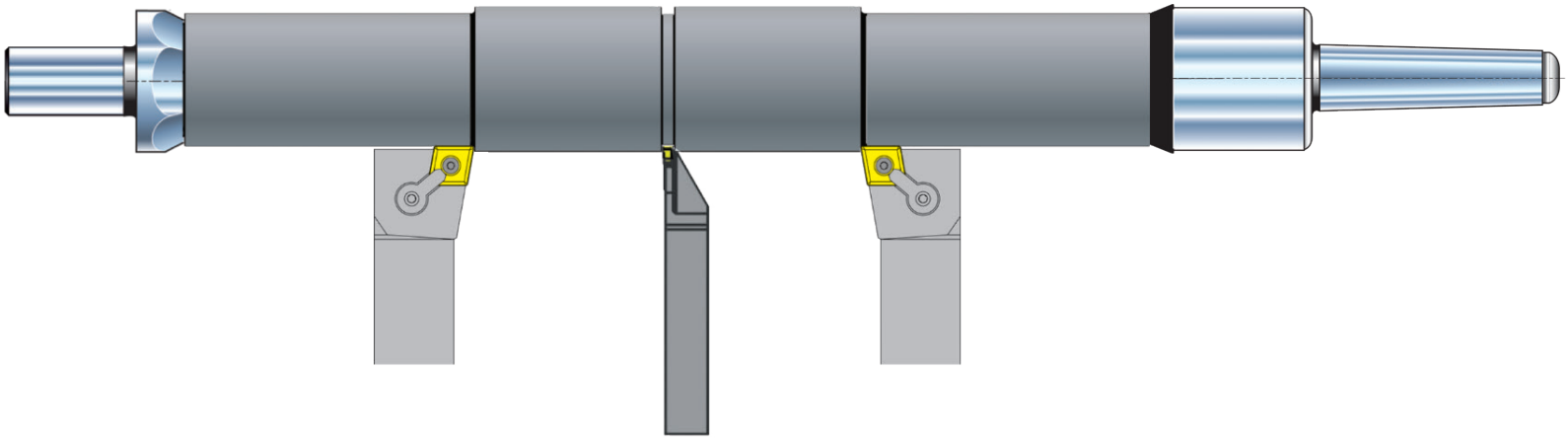


UPC No. 733101-	Description	System	Overall Dimensions	No. of Supports Provided	Max. Weight for Support	Max. Weight Total	Weight When Empty with 11 Supports
48480	PLCBN-STAND	in	27.5 W x 31.5 L x 48.4 H	11	80lbs	485lbs	154 lbs
		mm	700 W x 800 L x 1,230 H	11	36kg	220kg	70 kg

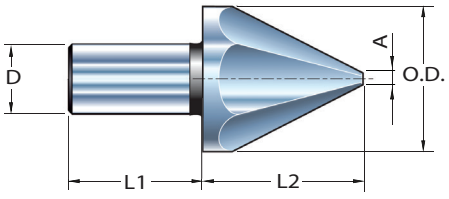
Small Integral Pipe Driver

Features	Driving Capacity	Integrated Driving Teeth
• Integrated Driving Teeth • Direct Chuck Mounting • Quick locking and removal of the workpiece without mechanical device.	From 8mm (.32") to 48mm (1.89")-	The Driving Teeth are a one piece precision construction, to maximize concentricity and balancing at high RPMs.

Simple - Rigid - Fast - Precise
High Driving Turning Performance!



Small Integral Pipe Driver



For precise machining, of small and medium tubing and pipes.

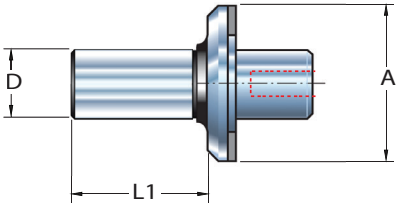
UPC No. 733101-	Description	System	A	O.D.	D	L1	L2	Weight
48684	PLC-SIPD-08-48	in	0.32	1.89	1.18	1.97	1.97	1.8 lbs
		mm	8	48	30	50	50	0.8 kg

Medium Modular Pipe Driver Spindle

Features	Driving Capacity
• Bidirectional Rotation • Quick locking and removal of the workpiece without mechanical device.	From 18mm (.710") to 245mm (9.65")

Simple - Rigid - Fast - Precise
High Driving Turning Performance!

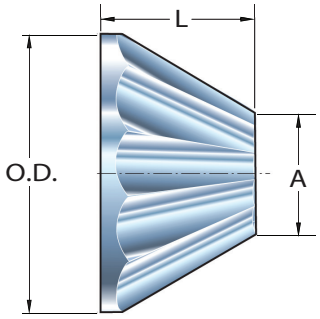
Medium Modular Pipe Driver Spindle

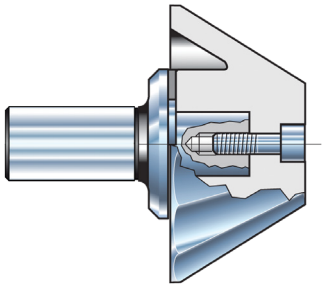


For precise machining, of small and medium tubing and pipes.

UPC No. 733101-	Description	System	A	D	L1	Thread	Weight
48685	PLC-MPDS-030-050	in	1.93	1.18	1.97	8mm	1.10 lbs
		mm	49	30	50	8mm	.5 kg

Modular Pipe Driver Head





UPC No. 733101-	Description	System	O.D.	A	L	Weight
48687	PLC-MPDH-018-068	in	2.68	0.71	1.97	3.5 lbs
		mm	68	18	50	1.6 kg
48688	PLC-MPDH-063-113	in	4.45	2.48	1.97	4.6 lbs
		mm	113	63	50	2.1 kg
48689	PLC-MPDH-108-158	in	6.22	4.25	1.97	8.1 lbs
		mm	158	108	50	3.7 kg
48690	PLC-MPDH-150-200	in	7.87	5.91	1.97	13.6 lbs
		mm	200	150	50	6.2 kg
48691	PLC-MPDH-195-245	in	9.65	7.67	1.97	19.8 lbs
		mm	245	195	50	9.0 kg

High Performance Perfetta™ Extra Heavy Duty Positive Bidirectional Pipe Driver

Extra Heavy Duty Positive Bidirectional Pipe Driver	1 3/4" to 23 5/8" Pipe ID Diameter Capacity

Pipe Driver

- Engineered to simplify the machining of tubes and pipes.
- Tubes or pipes and can be easily mounted or removed from the chuck without any mechanical device.
- Designed with set of indexable high speed steel, heat treated and precision ground driver blades.

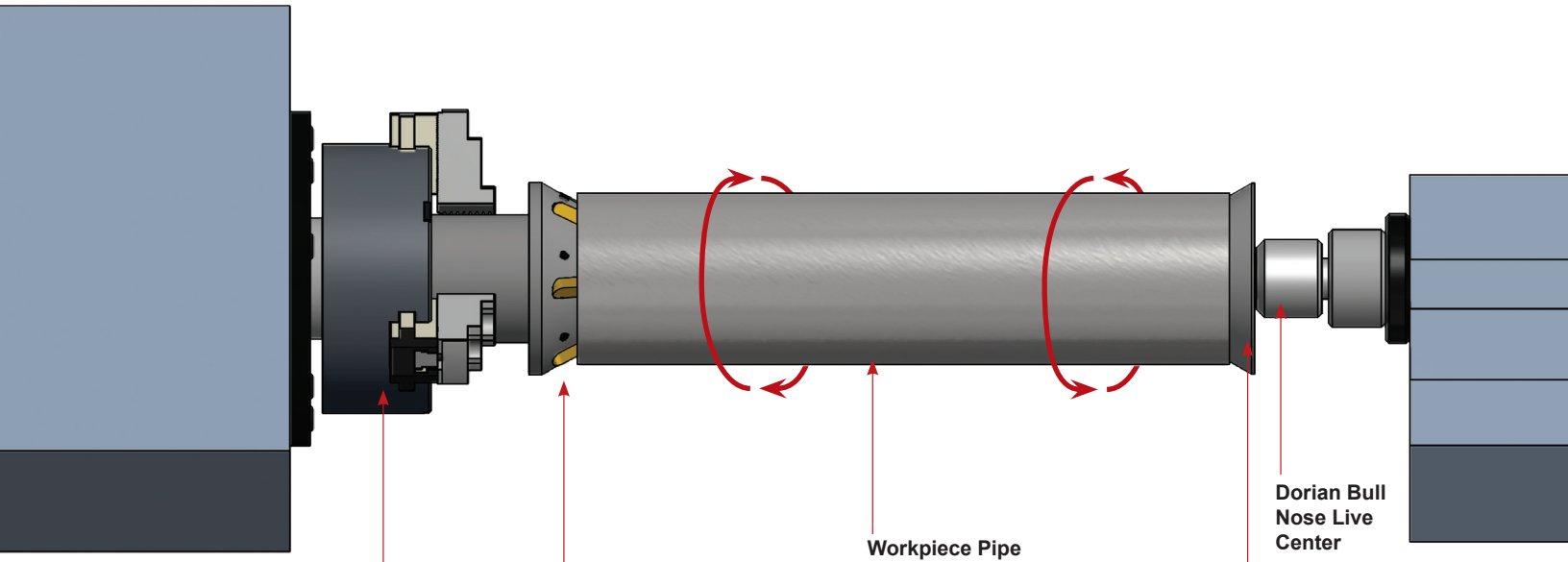
Indexable Driving 60° Blades Features

The Indexable Driver Blades, at 60° axial angle and with a 90° engagement angle with a hard and sharp edge, will fit in to the edge of the I.D. tubes or pipes.

The Axial Force (Fa) is applied from the Live Center or Bull Nose. The Live Center or Bull Nose, will force the edge of the I.D. tubes or the pipes to engage with the Indexable Driver Blades.

Driver Blades will securely grip and drive the workpiece for the turning operation.

Powerful - Rigid - Simple - Safe
Engineered to Perform with NO SLIPS!



Dorian Positive Bidirectional Pipe Driver

• Bidirectional Rotation

Clockwise Turning Rotation
Counterclockwise Turning Rotation

• Modular Technology

The Hub, held in the lathe chuck
The Body, holds the Driver Blades
Driver Blades, engage in to tubes or pipes

• Multi Cutting Direction

Turning Toward Pipe Driver
Turning Toward Live Center
Turning Radial Direction

• Multi Blade Driver

To maximize driving the grip and minimize distortion under the turning operation,the number of the driver blades increases for large diameters, from 6 to 15

• Pipe Driver Range

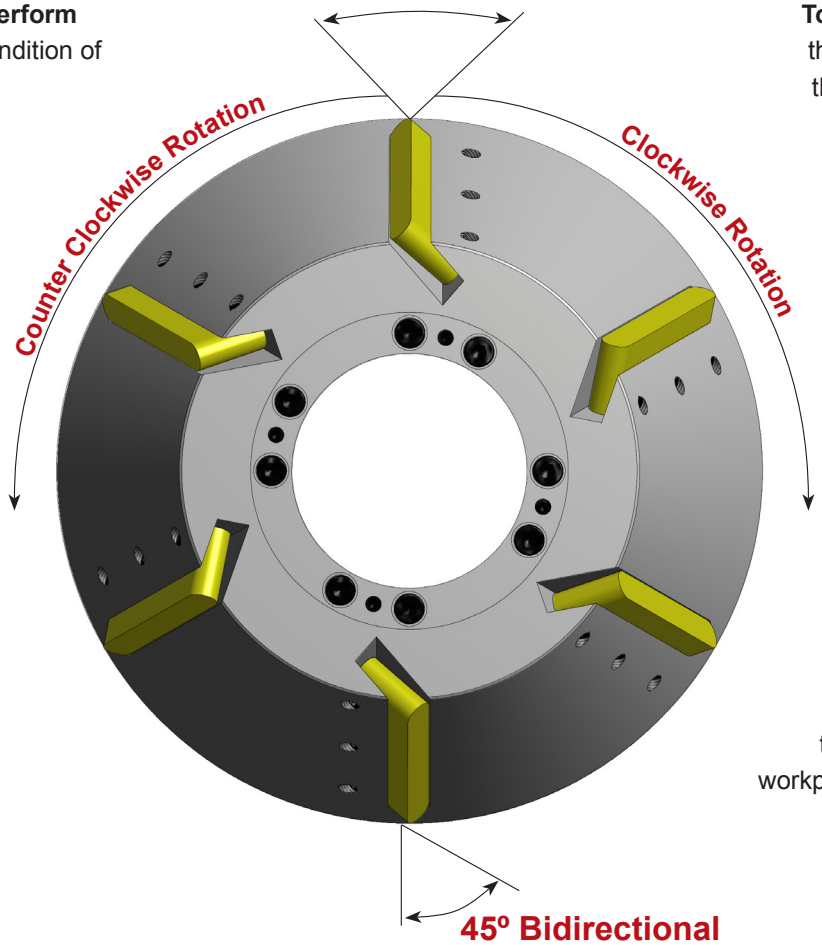
Pipe Driver	Inch		Metric		No of Blades
Description	From	To	From	To	Included
DPD045-150	1.77	5.91	45	150	6
DPD095-200	3.74	7.87	95	200	6
DPD195-300	7.68	11.81	195	300	9
DPD295-400	11.61	15.75	295	400	12
DPD395-500	15.55	19.69	395	500	12
DPD495-600	19.49	23.62	495	600	15

90º Grip Angle

Engineered and built to perform under the harsh working condition of machining large and heavy tubes and pipes.

Positive driving grip for Clockwise and Counterclockwise Turning Operation.

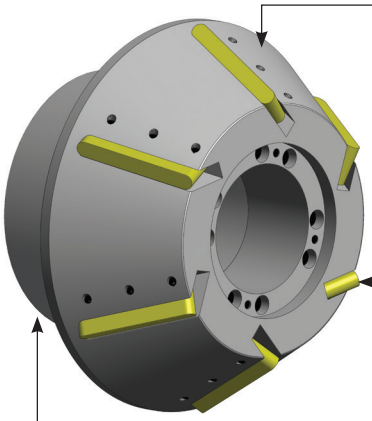
Multi Cutting Direction Turning Operation toward the Pipe Driver and toward the Bull Nose.



To Maximize the driving grip, the driver blades are held in to the body at a 45° radial angle, and with a 90° grip angle.

To eliminate diametric distortion of the tubes or pipes while machined, the number of driver blades increases in direct relation with size of the Pipe Drivers.

No Slips The Dorian Pipe Driver will grip the tubes or pipes with extreme rigidity and powerful driving force, to withstand large and heavy workpiece under heavy machining.

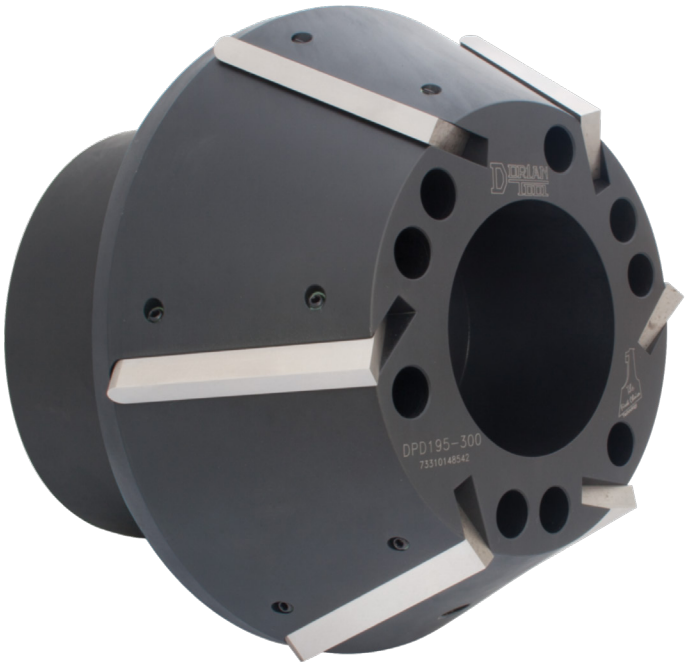


Pipe Driver Body
- Heat Treated Alloy Steel
- Attaches to hub and holds the driver blades
- The blade slots are at 45° radial position to maximize the holding grip & driving force
- Multi driving blades to maximize driving grip and minimize distortion

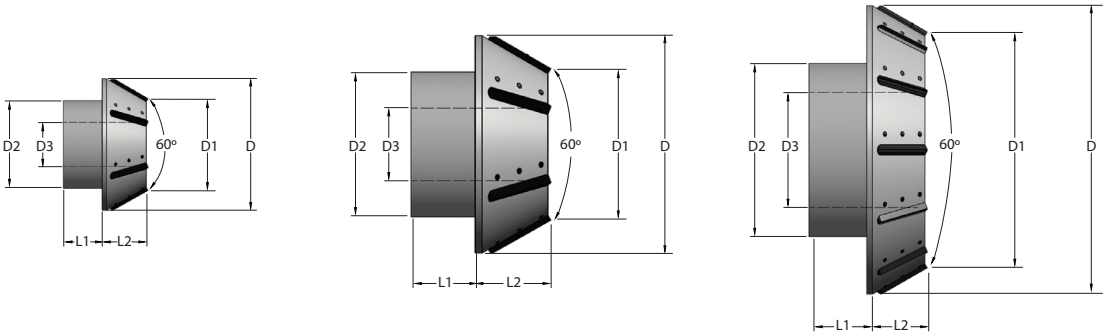
Replaceable Hub
- Modular Heat Treated Alloy Steel
- Chucking area of the Pipe Driver
- Chucking on the O.D. or I.D.
- Can be Remachined & Replaced if scarred or damaged

Positive Pipe Driver Blades
- Indexable Driver Blades
- Hardened & Ground Tool Steel (60HRc)
- Simple & Quick to install
- 4 Edges per Blade
- 45° Driving Angle
- 90° Grip Angle

For Extra Heavy Duty Roughing & Finishing



Extra Heavy Duty Positive Bidirectional Pipe Driver with Standard Steel Body



Positive Pipe Driver with Standard Steel Body											Bull Nose Cross-over		
UPC No.	Description	System	D	D1	D2	D3	L1	L2	No. Blades Included	Blade Description	UPC No.	Description	Range
48540	DPD045-150	in	5.91	1.77	2.76	-	2.99	4.13	6	PDB045-150	48420	PLCBN-HA-0177-0386	1.77"-3.86"
		mm	150	45	70	-	76	105			48421	PLCBN-HA-0374-0583	3.74"-5.83"
48541	DPD095-200	in	7.87	3.74	4.72	1.81	2.99	4.13	6	PDB200-600	48421	PLCBN-HA-0374-0583	3.74"-5.83"
		mm	200	95	120	46	76	105			48422	PLCBN-HA-0571-0780	5.71"-7.80"
48542	DPD195-300	in	11.81	7.68	7.76	4.06	3.46	4.13	9	PDB200-600	48423	PLCBN-HA-0768-0977	7.68"-9.77"
		mm	300	195	197	103	88	105			48424	PLCBN-HA-0965-1174	9.65"-11.74"
48543	DPD295-400	in	15.75	11.61	7.76	4.06	3.46	4.13	12	PDB200-600	48425	PLCBN-HA-1162-1371	11.62"-13.71"
		mm	400	295	197	103	88	105			48426	PLCBN-HA-1359-1568	13.59"-15.68"
48544	DPD395-500	in	19.69	15.55	11.69	7.99	3.94	4.13	12	PDB200-600	48427	PLCBN-HA-1556-1765	15.56"-17.65"
		mm	500	395	297	203	100	105			48428	PLCBN-HA-1753-1962	17.53"-19.62"
48545	DPD495-600	in	23.62	19.49	11.69	7.99	3.94	4.13	15	PDB200-600	48429	PLCBN-HA-1950-2147	19.50"-21.47"
		mm	600	495	297	203	100	105			48430	PLCBN-HA-2147-2364	21.47"-23.64"

The (Fa) Axial Force

The Axial Force (Fa) is the force required to drive the workpiece in the turning operation.

The Axial Force (Fa) is applied from the Live Center or Bull Nose. The Live Center or Bull Nose forces the tubes I.D. to engage with the **Driver Blades**.

The Driver Blades will securely grip the work piece, and drive for the turning operation

References

1.	Fa	Axial Force
2.	dw	Workpiece Diameter
3.	Dr	Driving Ratio
4.	dg	Driving grip diameter
5.	ap	Depth of Cut
6.	fn	Feed per Revolution
7.	Sq	Chip Size
8.	daN	Deca Newton
9.	lb	Pound Force
10.	df	Direction Cutting Factor

The (Fa) Axial Force Formula

Metric Value

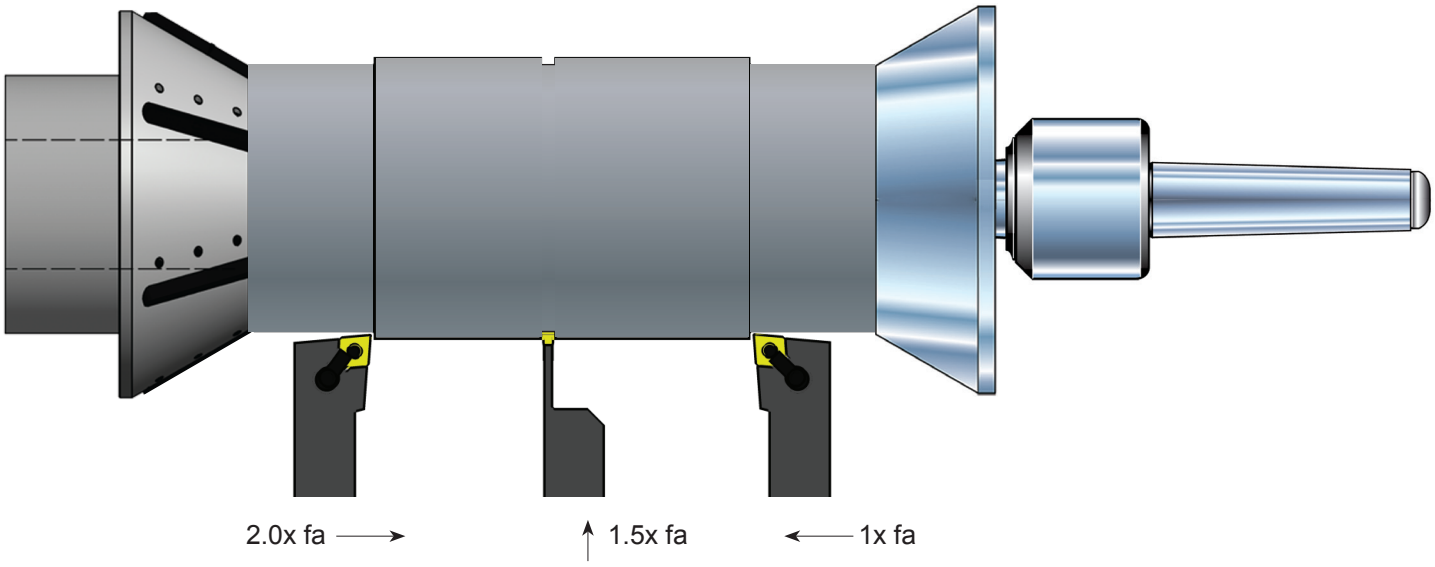
Fa (daN) = (Dw ÷ dg) x (ap x fn x 100) +200

Inch Value

Fa (lb) = [(Dw ÷ dg) x (ap x fn x 64520) +200] x 2.2

The Axial Force, will change with the:

Workpiece Diameter	Depth of Cut
Gripping Diameter	Cutting Direction
Depth of Cut	Material Strength



Example: To calculate (Fa) Axial Force Apply the *value to the formula shown above

dw Diameter of the workpiece	***700mm**	***28.00"**
dg Driving grip Diameter	***500mm**	***20.00"**

ap Depth of cut	***5.0mm**	***0.197"**
fn Feed per revolution	***0.3mm/rev**	***0.012"**

Metric Value

Fa (daN) = (700 ÷ 500) x (5.0 x 0.3 x 100) + 200 = 410 daN

Inch Value

Fa (lb) = (28.00 ÷ 20.00) x (0.197 X 0.012 x 6452) + 200 x 2.2 = 902 lb

Changes of Axial Force

Cutting Direction.

The (Fa) Axial Force required for the turning Operation, changes with Cutting Direction. Multiply the (Fa) time the direction factor (df)

Cutting Direction Factor	(df) Factor
Turning toward the Face Drive	1
Turning toward the Live Center	2
Plunging	1.5

Material Tensile Strength

The formula and chart data are for turning materials with a Tensile strength up to 20000 psi (700 N/mm2).

The Axial Force must be increased by 10% for every 2000 psi (100 N/mm2).

Multiple Cutting Tools (Fa)

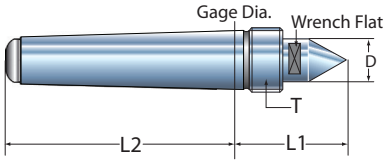
When using multiple cutting tools simultaneously, the Axial Force of each tool must be calculated and added, to find the total (Fa) Axial Force required.

CNC Steel Morse Taper Threaded Dead Centers — T.I.R. .0001"

Features	Application	Suggested Lathe
• Precise Concentricity T.I.R. .0001"	• Roughing & Precision Finishing	• All types of CNC Machine Centers
• Points Interchangeability for a specific Turning application	• For all Turning Applications on the CNC Machine Center	
• Built with Tool Steel, Heat treated and super precision ground for accuracy, Precision and Durability.		

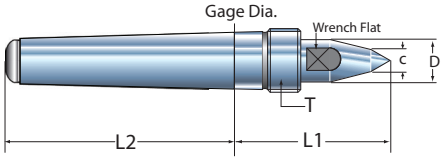
For Roughing & Precision Finishing

CNC Steel Morse Taper Threaded Dead Center with 60° Steel Point



UPC 733101-	Description	System	D	Gage Dia.	L1	L2	T Thread	Morse Taper	CH Wrench Flats	Weight (lb)/(kg)
48440	PLC-CNC-TDC-MT3	in	1.10	0.938	2.560	3.190	M36 x 1.5	MT3	0.87	1.00
		mm	28.0	23.8	65.0	81.0	M36 x 1.5	MT3	22	0.5
48441	PLC-CNC-TDC-MT4	in	1.260	1.231	3.010	4.04	M36 x 1.5	MT4	1.06	1.70
		mm	32.0	31.3	76.5	102.5	M36 x 1.5	MT4	27	0.8
48442	PLC-CNC-TDC-MT5	in	1.498	1.5	3.407	5.10	M48 x 1.5	MT5	1.26	4.50
		mm	38.0	38.1	86.5	129.5	M48 x 1.5	MT5	32	2.0

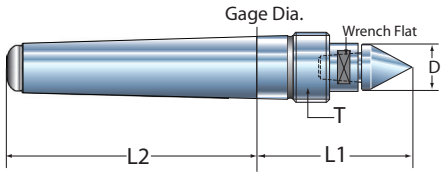
CNC Steel Morse Taper Threaded Dead Center with 60° Extended Steel Point



UPC 733101-	Description	System	D	Gage Dia.	C	L1	L2	T Thread	Morse Taper	CH Wrench Flats	Weight (lb)/(kg)
48443	PLC-CNC-XTDC-MT3	in	1.102	0.938	0.510	3.150	3.190	36 x 1.5	MT3	0.87	1.00
		mm	28.0	23.8	13.0	80.0	81.0	36 x 1.5	MT3	22	0.5
48444	PLC-CNC-XTDC-MT4	in	1.260	1.231	0.510	3.640	4.04	36 x 1.5	MT4	1.06	1.70
		mm	32.0	31.3	13.0	92.5	102.5	36 x 1.5	MT4	27	0.8
48445	PLC-CNC-XTDC-MT5	in	1.498	1.5	0.788	4.115	5.10	48 x 1.5	MT5	1.26	4.50
		mm	38.0	38.1	20.0	104.5	129.5	48 x 1.5	MT5	32	2.0

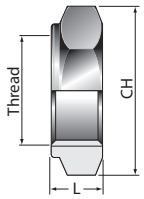
CNC Steel Morse Taper Threaded Dead Center with Interchangeable Steel Point

See Page A-48 for Interchangeable Points.



UPC 733101-	Description	System	D	Gage Dia.	L1	L2	T Thread	Morse Taper	CH Wrench Flats	Weight (lb)/(kg)
48446	PLC-CNC-ITDC-MT3	in	1.102	0.938	2.760	3.27	M36 x 1.5	MT3	0.87	1.00
		mm	28.0	23.8	70	83	M36 x 1.5	MT3	22	0.5
48447	PLC-CNC-ITDC-MT4	in	1.260	1.231	2.93	4.11	M36 x 1.5	MT4	1.06	1.70
		mm	32.0	31.3	74.5	104.5	M36 x 1.5	MT4	27	0.8
48448	PLC-CNC-ITDC-MT5	in	1.498	1.500	3.130	5.57	M48 x 1.5	MT5	1.26	4.50
		mm	38.0	38.1	79.5	141.5	M48 x 1.5	MT5	32	2.0

CNC Dead Center Extractor Nut



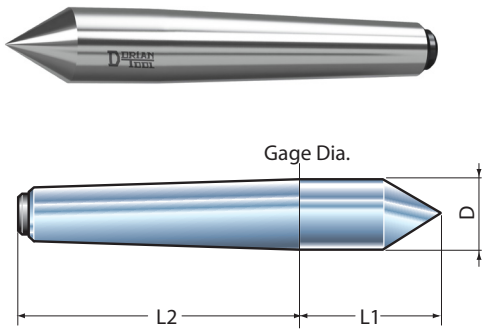
UPC 733101-	Description	System	L	Thread	CH Wrench Flats	Weight (lb)/(kg)
48449	PLC-CNC-DCEN-36	in	1.18	M36 x 1.5	2.17	0.77
		mm	30	M36 x 1.5	55	0.35
48450	PLC-CNC-DCEN-41	in	0.87	M48 x 1.5	2.17	0.44
		mm	22	M48 x 1.5	55	0.2
48451	PLC-CNC-DCEN-48	in	1.18	M48 x 1.5	2.17	1.10
		mm	30	M48 x 1.5	55	0.5
48452	PLC-CNC-DCEN-68	in	0.87	M68 x 1.5	3.78	1.10
		mm	22	M68 x 1.5	96	0.5

Precision CNC Steel Morse Taper Dead Centers — For Grinding and High Precision Turning

Features

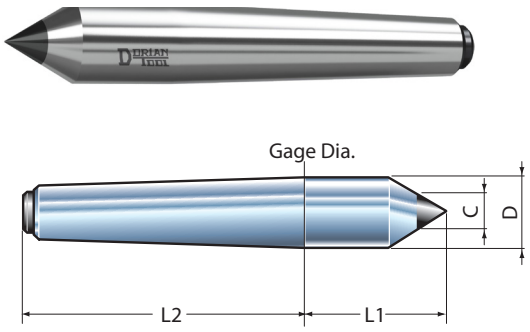
- For Grinding and High Precision Turning
- Morse Taper Body and 60° Point
- Precision Ground with .00005"/.0013mm T.I.R.
- Built with Alloy Steel and Heat Treated
- Brazed Carbide Point for Higher Wear Resistance and Longer Working Life
- Relieved Nose Diameter, for Grinding Wheel Clearance

Precision CNC Steel Morse Taper Dead Center with 60° Steel Point



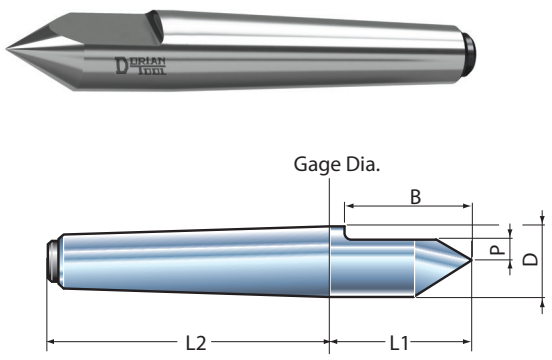
UPC 733101-	Description	System	D	Gage Dia.	L1	L2	Morse Taper	Weight (lb)
48453	PLC-MTDC-SMT1	in	0.48	0.475	1.03	2.12	MT1	0.22
		mm	12.2	12.1	26.2	53.8	MT1	0.1
48454	PLC-MTDC-SMT2	in	0.71	0.7	1.38	2.56	MT2	0.29
		mm	18	17.8	35	65	MT2	0.13
48455	PLC-MTDC-SMT3	in	0.95	0.938	1.73	3.19	MT3	0.88
		mm	24.1	23.8	44	81	MT3	0.4
48456	PLC-MTDC-SMT4	in	1.24	1.231	2.24	4.06	MT4	1.65
		mm	31.6	31.3	57	103	MT4	0.75
48457	PLC-MTDC-SMT5	in	1.76	1.748	2.68	5.19	MT5	4.30
		mm	44.7	44.4	68	132	MT5	1.95
48458	PLC-MTDC-SMT6	in	2.51	2.494	3.38	7.25	MT6	16.06
		mm	63.8	63.3	86	184	MT6	7.3

Precision CNC Steel Morse Taper Dead Center with 60° Partial Carbide Point



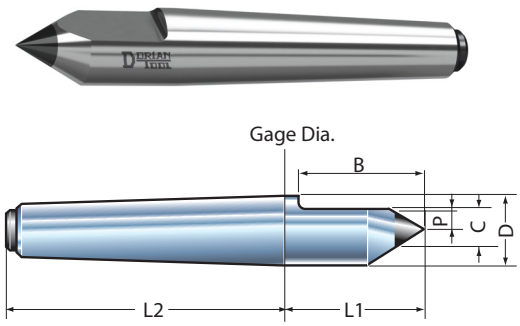
UPC 733101-	Description	System	D	Gage Dia.	C	L1	L2	Morse Taper	Weight (lb)
48459	PLC-MTDC-CMT2	in	0.71	0.7	0.28	1.38	2.56	MT2	0.29
		mm	18	17.8	7	35	65	MT2	0.13
48460	PLC-MTDC-CMT3	in	0.95	0.938	0.43	1.73	3.19	MT3	0.88
		mm	24.1	23.8	11	44	81	MT3	0.4
48461	PLC-MTDC-CMT4	in	1.24	1.231	0.55	2.24	4.06	MT4	1.65
		mm	31.6	31.3	14	57	103	MT4	0.75
48462	PLC-MTDC-CMT5	in	1.76	1.748	0.71	2.68	5.19	MT5	4.30
		mm	44.7	44.4	18	68	132	MT5	1.95
48463	PLC-MTDC-CMT6	in	2.51	2.494	0.79	3.38	7.25	MT6	16.06
		mm	63.8	63.3	20	86	184	MT6	7.3

Precision CNC Steel Morse Taper Half Moon Dead Center with 60° Steel Point



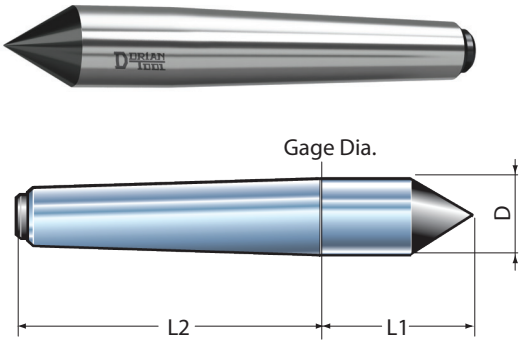
UPC 733101-	Description	System	D	Gage Dia.	B	P	L1	L2	Morse Taper	Weight (lb)
48464	PLC-HMDC-SMT1	in	0.48	0.475	0.87	0.06	1.03	2.12	MT1	0.22
		mm	12.2	12.1	22.0	1.5	26.2	53.8	MT1	0.1
48465	PLC-HMDC-SMT2	in	0.71	0.700	1.18	0.08	1.38	2.56	MT2	0.29
		mm	18.0	17.8	30.0	2.0	35	65	MT2	0.13
48466	PLC-HMDC-SMT3	in	0.95	0.938	1.50	0.12	1.73	3.19	MT3	0.88
		mm	24.1	23.8	38.0	3.0	44	81	MT3	0.4
48467	PLC-HMDC-SMT4	in	1.24	1.231	1.97	0.20	2.24	4.06	MT4	1.65
		mm	31.6	31.3	50.0	5.0	57	103	MT4	0.75
48468	PLC-HMDC-SMT5	in	1.76	1.748	2.48	0.28	2.68	5.19	MT5	4.30
		mm	44.7	44.4	63.0	7.0	68	132	MT5	1.95
48469	PLC-HMDC-SMT6	in	2.51	2.494	3.11	0.39	3.38	7.25	MT6	16.06
		mm	63.8	63.3	79	10.0	86	184	MT6	7.3

Precision CNC Steel Morse Taper Half Moon Dead Center with 60° Carbide Point



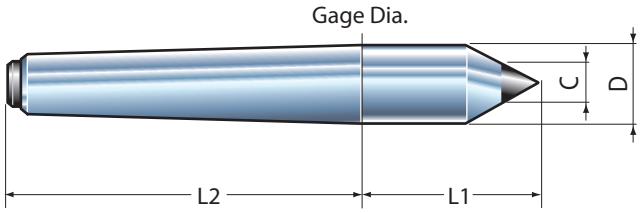
UPC 733101-	Description	System	D	Gage Dia.	B	C	P	L1	L2	Morse Taper	Weight (lb)
48470	PLC-HMDC-CMT2	in	0.71	0.7	1.18	0.28	0.08	1.38	2.56	MT2	0.29
		mm	18	17.8	30.0	7.0	2.0	35	65	MT2	0.13
48471	PLC-HMDC-CMT3	in	0.95	0.938	1.50	0.43	0.12	1.73	3.19	MT3	0.88
		mm	24.1	23.8	38.0	11.0	3.0	44	81	MT3	0.4
48472	PLC-HMDC-CMT4	in	1.24	1.231	1.97	0.55	0.20	2.24	4.06	MT4	1.65
		mm	31.6	31.3	50.0	14.0	5.0	57	103	MT4	0.75
48473	PLC-HMDC-CMT5	in	1.76	1.748	2.48	0.71	0.28	2.68	5.19	MT5	4.30
		mm	44.7	44.4	63.0	18.0	7.0	68	132	MT5	1.95
48474	PLC-HMDC-CMT6	in	2.51	2.494	3.11	0.79	0.39	3.38	7.25	MT6	16.06
		mm	63.8	63.3	79.0	20.0	10.0	86	184	MT6	7.3

Precision CNC Steel Morse Taper Dead Center with Large 60° Carbide Point



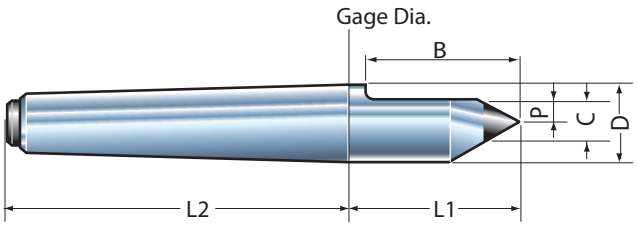
UPC 733101-	Description	System	D	Gage Dia.	L1	L2	Morse Taper	Weight (lb)
48557	PLC-LPDC-CMT2	in	0.71	0.7	1.38	2.56	MT2	0.29
		mm	18	17.8	35	65	MT2	0.13
48558	PLC-LPDC-CMT3	in	0.95	0.938	1.73	3.19	MT3	0.88
		mm	24.1	23.8	44	81	MT3	0.4
48559	PLC-LPDC-CMT4	in	1.24	1.231	2.24	4.06	MT4	1.65
		mm	31.6	31.3	57	103	MT4	0.75
48560	PLC-LPDC-CMT5	in	1.76	1.748	2.68	5.19	MT5	4.30
		mm	44.7	44.4	68	132	MT5	1.95
48561	PLC-LPDC-CMT6	in	2.51	2.494	3.38	7.25	MT6	16.06
		mm	63.8	63.3	86	184	MT6	7.3

High Speed Steel Morse Taper Extended Dead Center with 60° Carbide Point



UPC 733101-	Description	System	D	C	Gage Dia.	L1	L2	Morse Taper	Weight (lb)
48156	PLC-XMTDC-C10-MT2	in	0.71	0.39	0.700	2.16	2.56	MT2	0.44
		mm	18.0	10.0	17.8	55	65	MT2	0.2
48157	PLC-XMTDC-C14-MT2	in	0.71	0.55	0.700	2.16	2.56	MT2	0.44
		mm	18.0	14.0	17.8	55	65	MT2	0.2
48158	PLC-XMTDC-C18-MT2	in	0.87	0.71	0.700	2.16	2.56	MT2	0.44
		mm	22.0	18.0	17.8	55	65	MT2	0.2
48159	PLC-XMTDC-C10-MT3	in	0.95	0.39	0.938	2.24	4.06	MT3	1.10
		mm	24.1	10.0	23.8	57	103	MT3	0.5
48160	PLC-XMTDC-C14-MT3	in	0.95	0.55	0.938	2.24	4.06	MT3	1.10
		mm	24.1	14.0	23.8	57	403	MT3	0.5
48161	PLC-XMTDC-C18-MT3	in	0.95	0.71	0.938	2.27	4.06	MT3	1.10
		mm	24.1	18.0	23.8	57	103	MT3	0.5
48162	PLC-XMTDC-C22-MT3	in	0.95	0.87	0.938	2.24	4.06	MT3	1.10
		mm	24.1	22.0	23.8	57	103	MT3	0.5
48163	PLC-XMTDC-C10-MT4	in	1.24	0.39	1.231	4.68	3.19	MT4	2.20
		mm	31.6	10.0	31.3	119	81	MT4	1.0
48164	PLC-XMTDC-C14-MT4	in	1.24	0.55	1.231	5.31	2.56	MT4	2.20
		mm	31.6	14.0	31.3	135	65	MT4	1.0
48165	PLC-XMTDC-C18-MT4	in	1.24	0.71	1.231	4.68	3.19	MT4	2.20
		mm	31.6	18.0	31.3	119	81	MT4	1.0
48166	PLC-XMTDC-C22-MT4	in	1.24	0.87	1.231	4.68	3.19	MT4	2.20
		mm	31.6	22.0	31.3	119	81	MT4	1.0
48167	PLC-XMTDC-C26-MT4	in	1.24	1.02	1.231	3.81	4.06	MT4	2.20
		mm	31.6	26.0	31.3	97	103	MT4	1.0
48168	PLC-XMTDC-C14-MT5	in	1.76	0.55	1.748	6.26	3.19	MT5	5.28
		mm	44.7	14.0	44.4	159	81	MT5	2.4
48169	PLC-XMTDC-C18-MT5	in	1.76	0.71	1.748	6.89	2.56	MT5	5.28
		mm	44.7	18.0	44.4	175	65	MT5	2.4
48170	PLC-XMTDC-C22-MT5	in	1.76	0.87	1.748	6.26	3.19	MT5	5.28
		mm	44.7	22.0	44.4	159	81	MT5	2.4
48171	PLC-XMTDC-C26-MT5	in	1.76	1.02	1.748	6.26	3.19	MT5	5.50
		mm	44.7	26.0	44.4	159	81	MT5	2.5
48172	PLC-XMTDC-C30-MT5	in	1.76	1.18	1.748	5.39	4.06	MT5	5.50
		mm	44.7	30.0	44.4	137	103	MT5	2.5
48173	PLC-XMTDC-C14-MT6	in	2.51	0.55	2.494	8.62	3.19	MT6	11.88
		mm	63.8	14.0	63.3	219	81	MT6	5.4
48174	PLC-XMTDC-C18-MT6	in	2.51	0.71	2.494	9.25	2.56	MT6	12.76
		mm	63.8	18.0	63.3	235	65	MT6	5.8
48175	PLC-XMTDC-C22-MT6	in	2.51	0.87	2.494	8.62	3.19	MT6	12.76
		mm	63.8	22.0	63.3	219	81	MT6	5.8
48176	PLC-XMTDC-C26-MT6	in	2.51	1.02	2.494	8.62	3.19	MT6	12.76
		mm	63.8	26.0	63.3	219	81	MT6	5.8
48177	PLC-XMTDC-C30-MT6	in	2.51	1.18	2.494	7.75	4.06	MT6	13.20
		mm	63.8	30.0	63.3	197	103	MT6	6.0

High Speed Steel Morse Taper Extended Half Moon Dead Center with 60° Carbide Point

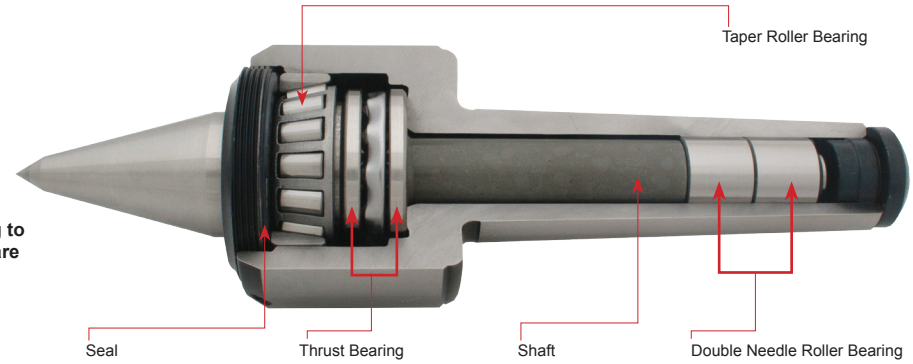


UPC 733101-	Description	System	D	Gage Dia.	L1	L2	Morse Taper	B	C	P	Weight (lb)
48178	PLC-XMTDC-HC10-MT2	in	0.71	0.700	2.16	2.56	MT2	0.24	0.39	1.97	0.44
		mm	18.0	17.8	55	65	MT2	6.0	10.0	50.0	0.2
48179	PLC-XMTDC-HC14-MT2	in	0.71	0.700	2.16	2.56	MT2	0.31	0.55	1.97	0.44
		mm	18.0	17.8	55	65	MT2	8.0	14.0	50.0	0.2
48180	PLC-XMTDC-HC18-MT2	in	0.87	0.700	2.16	2.56	MT2	0.39	0.71	1.97	0.44
		mm	22.0	17.8	55	65	MT2	10.0	18.0	50.0	0.2
48181	PLC-XMTDC-HC10-MT3	in	0.95	0.938	3.11	3.19	MT3	0.24	0.39	2.76	1.10
		mm	24.1	23.8	79	81	MT3	6.0	10.0	70.0	0.5
48182	PLC-XMTDC-HC14-MT3	in	0.71	0.938	3.74	2.56	MT3	0.31	0.55	2.76	1.10
		mm	18.0	23.8	95	65	MT3	8.0	14.0	70.0	0.5
48183	PLC-XMTDC-HC18-MT3	in	0.95	0.938	3.11	3.19	MT3	0.39	0.71	2.76	1.10
		mm	24.1	23.8	79	81	MT3	10.0	18.0	70.0	0.5
48184	PLC-XMTDC-HC22-MT3	in	1.24	0.938	2.24	4.06	MT3	0.47	0.87	2.76	1.10
		mm	31.6	23.8	57	103	MT3	12.0	22.0	70.0	0.5
48185	PLC-XMTDC-HC10-MT4	in	1.24	1.231	4.68	3.19	MT4	0.24	0.39	3.54	2.20
		mm	31.6	31.3	119	81	MT4	6.0	10.0	90.0	1.0
48186	PLC-XMTDC-HC14-MT4	in	1.24	1.231	5.31	2.56	MT4	0.31	0.55	3.54	2.20
		mm	31.6	31.3	135	65	MT4	8.0	14.0	90.0	1.0
48187	PLC-XMTDC-HC18-MT4	in	1.24	1.231	4.68	3.19	MT4	0.39	0.71	3.54	2.20
		mm	31.6	31.3	119	81	MT4	10.0	18.0	90.0	1.0
48188	PLC-XMTDC-HC22-MT4	in	1.24	1.231	4.68	3.19	MT4	0.47	0.87	3.54	2.20
		mm	31.6	31.3	119	81	MT4	12.0	22.0	90.0	1.0
48189	PLC-XMTDC-HC26-MT4	in	1.24	1.231	3.81	4.06	MT4	0.55	1.02	3.54	2.20
		mm	31.6	31.3	97	103	MT4	14.0	26.0	90.0	1.0
48190	PLC-XMTDC-HC14-MT5	in	1.76	1.748	6.26	3.19	MT5	0.31	0.55	3.54	5.28
		mm	44.7	44.4	159	81	MT5	8.0	14.0	90.0	2.4
48191	PLC-XMTDC-HC18-MT5	in	1.76	1.748	6.89	2.56	MT5	0.39	0.71	3.54	5.28
		mm	44.7	44.4	175	65	MT5	10.0	18.0	90.0	2.4
48192	PLC-XMTDC-HC22-MT5	in	1.76	1.748	6.26	3.19	MT5	0.47	0.87	3.54	5.28
		mm	44.7	44.4	159	81	MT5	12.0	22.0	90.0	2.4
48193	PLC-XMTDC-HC26-MT5	in	1.76	1.748	6.26	3.19	MT5	0.55	1.02	3.54	5.50
		mm	44.7	44.4	159	81	MT5	14.0	26.0	90.0	2.5
48194	PLC-XMTDC-HC30-MT5	in	1.76	1.748	5.39	4.06	MT5	0.63	1.18	3.54	5.50
		mm	44.7	44.4	137	103	MT5	16.0	30.0	90.0	2.5
48195	PLC-XMTDC-HC14-MT6	in	2.51	2.494	8.62	3.19	MT6	0.31	0.55	3.94	5.28
		mm	63.8	63.3	219	81	MT6	8.0	14.0	100.0	2.4
48196	PLC-XMTDC-HC18-MT6	in	2.51	2.494	9.25	2.56	MT6	0.39	0.71	3.94	5.28
		mm	63.8	63.3	235	65	MT6	10.0	18.0	100.0	2.4
48197	PLC-XMTDC-HC22-MT6	in	2.51	2.494	8.62	3.19	MT6	0.47	0.87	3.94	5.28
		mm	63.8	63.3	219	81	MT6	12.0	22.0	100.0	2.4
48198	PLC-XMTDC-HC26-MT6	in	2.51	2.494	8.62	3.19	MT6	0.55	1.02	3.94	5.28
		mm	63.8	63.3	219	81	MT6	14.0	26.0	100.0	2.4
48199	PLC-XMTDC-HC30-MT6	in	2.51	2.494	7.75	4.06	MT6	0.63	1.18	3.94	5.28
		mm	63.8	63.3	197	103	MT6	16.0	30.0	100.0	2.4

High Performance Perfetta™ Live Centers Spare Parts

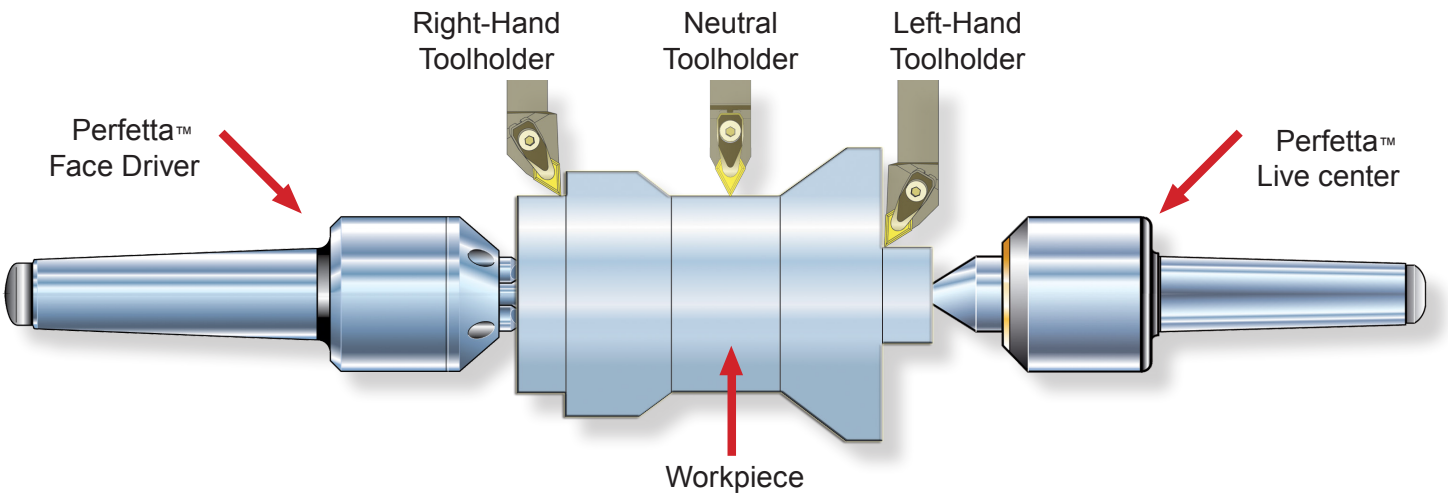
Precision 60° Standard Steel Point Live Center Shown right.

***The Bearings and Seal Kit, and Shaft are sold according to the style of Live center you are ordering the spare parts for.**



Live Center Style			Bearings and Seals Kit*		Live Center Shaft*	
Live Center Style	UPC 733101-	Description	UPC 733101-	Description	UPC 733101-	Description
Precision General Purpose Live Center with 60° Standard Steel Point Page A-6 - A-7	48200	PLC-PRE-S60-MT1	48617	PLC-PRE-MT1-BKT	48479	PLC-PRE-S60-MT1-SPD
	48201	PLC-PRE-S60-MT2	48618	PLC-PRE-MT2-BKT	48481	PLC-PRE-S60-MT2-SPD
	48202	PLC-PRE-S60-MT3	48619	PLC-PRE-MT3-BKT	48482	PLC-PRE-S60-MT3-SPD
	48203	PLC-PRE-S60-MT4	48620	PLC-PRE-MT4-BKT	48483	PLC-PRE-S60-MT4-SPD
	48204	PLC-PRE-S60-MT5	48621	PLC-PRE-MT5-BKT	48484	PLC-PRE-S60-MT5-SPD
	48205	PLC-PRE-S60-MT6	48622	PLC-PRE-MT6-BKT	48485	PLC-PRE-S60-MT6-SPD
Precision General Purpose Live Center with 60° Extended Medium Slim Steel Point Page A-8 - A-9	48266	PLC-PRE-EMSSP-MT2	48618	PLC-PRE-MT2-BKT	48487	PLC-PRE-EMSSP-MT2-SPD
	48267	PLC-PRE-EMSSP-MT3	48619	PLC-PRE--MT3-BKT	48488	PLC-PRE-EMSSP-MT3-SPD
	48268	PLC-PRE-EMSSP-MT4	48620	PLC-PRE-MT4-BKT	48489	PLC-PRE-EMSSP-MT4-SPD
Precision General Purpose Live Center with 60° Extended Large Steel Point Page A-10 - A-11	48269	PLC-PRE-ELSP-MT3	48619	PLC-PRE-MT3-BKT	48490	PLC-PRE-ELSP-MT3-SPD
	48270	PLC-PRE-ELSP-MT4	48620	PLC-PRE-MT4-BKT	48491	PLC-PRE-ELSP-MT4-SPD
	48271	PLC-PRE-ELSP-MT5	48621	PLC-PRE-MT5-BKT	48492	PLC-PRE-ELSP-MT5-SPD
	48272	PLC-PRE-ELSP-MT6	48622	PLC-PRE-MT6-BKT	48493	PLC-PRE-ELSP-MT6-SPD
Heavy Duty Live Center with 60° Standard Steel Point Page A-12 - A-13	48206	PLC-HDA-S60-MT2	48623	PLC-HDA-MT2-BKT	48494	PLC-HDA-S60-MT2-SPD
	48207	PLC-HDA-S60-MT3	48624	PLC-HDA-MT3-BKT	48495	PLC-HDA-S60-MT3-SPD
	48208	PLC-HDA-S60-MT4	48625	PLC-HDA-MT4-BKT	48496	PLC-HDA-S60-MT4-SPD
	48209	PLC-HDA-S60-MT5	48626	PLC-HDA-MT5-BKT	48497	PLC-HDA-S60-MT5-SPD
	48210	PLC-HDA-S60-MT6	48627	PLC-HDA-MT6-BKT	48498	PLC-HDA-S60-MT6-SPD
	48211	PLC-HDA-S60-MT6S	48628	PLC-HDA-MT6S-BKT	48499	PLC-HDA-S60-MT6S-SPD
	48212	PLC-HDA-S60-M80	48629	PLC-HDA-MTM80-BKT	48500	PLC-HDA-S60-MTM80-SPD
	48213	PLC-HDA-S60-M100	48630	PLC-HDA-MTM100-BKT	48501	PLC-HDA-S60-MTM100-SPD
Heavy Duty Live Center with 60° Extended Medium Slim Steel Point Page A-14 - A-15	48273	PLC-HDA-EMSSP-MT3	48624	PLC-HDA-MT3-BKT	48502	PLC-HDA-EMSSP-MT3-SPD
	48274	PLC-HDA-EMSSP-MT4	48625	PLC-HDA-MT4-BKT	48503	PLC-HDA-EMSSP-MT4-SPD
	48275	PLC-HDA-EMSSP-MT5	48626	PLC-HDA-MT5-BKT	48504	PLC-HDA-EMSSP-MT5-SPD
Heavy Duty Live Center with 60° Extended Large Steel Point Page A-16 - A-17	48277	PLC-HDA-ELSP-MT3	48624	PLC-HDA-MT3-BKT	48506	PLC-HDA-ELSP-MT3-SPD
	48278	PLC-HDA-ELSP-MT4	48625	PLC-HDA-MT4-BKT	48507	PLC-HDA-ELSP-MT4-SPD
	48279	PLC-HDA-ELSP-MT5	48626	PLC-HDA-MT5-BKT	48508	PLC-HDA-ELSP-MT5-SPD
	48280	PLC-HDA-ELSP-MT6	48627	PLC-HDA-MT6-BKT	48509	PLC-HDA-ELSP-MT6-SPD
Heavy Duty Live Center for Interchangeable Points Page A-18 - A-19	48214	PLC-HDA-INT-MT2	48623	PLC-HDA-MT2-BKT	48511	PLC-HDA-INT-MT2-SPD
	48215	PLC-HDA-INT-MT3	48624	PLC-HDA-MT3-BKT	48512	PLC-HDA-INT-MT3-SPD
	48216	PLC-HDA-INT-MT4	48625	PLC-HDA-MT4-BKT	48513	PLC-HDA-INT-MT4-SPD
	48217	PLC-HDA-INT-MT5	48626	PLC-HDA-MT5-BKT	48514	PLC-HDA-INT-MT5-SPD
	48218	PLC-HDA-INT-MT6	48627	PLC-HDA-MT6-BKT	48515	PLC-HDA-INT-MT6-SPD
CNC High Speed Heavy Duty Live Center with 60° Standard Steel Point Page A-20 - A-21	48220	PLC-CNC-S60-MT3	48631	PLC-CNC-MT3-BKT	48517	PLC-CNC-S60-MT3-SPD
	48221	PLC-CNC-S60-MT4	48632	PLC-CNC-MT4-BKT	48518	PLC-CNC-S60-MT4-SPD
	48222	PLC-CNC-S60-MT5	48633	PLC-CNC-MT5-BKT	48519	PLC-CNC-S60-MT5-SPD
	48223	PLC-CNC-S60-MT6	48634	PLC-CNC-MT6-BKT	48520	PLC-CNC-S60-MT6-SPD
CNC High Speed Heavy Duty Live Center with 60° Carbide Steel Point Page A-20 - A-21	48224	PLC-CNC-C60-MT3	48631	PLC-CNC-MT3-BKT	48521	PLC-CNC-C60-MT3-SPD
	48225	PLC-CNC-C60-MT4	48632	PLC-CNC-MT4-BKT	48522	PLC-CNC-C60-MT4-SPD
	48226	PLC-CNC-C60-MT5	48633	PLC-CNC-MT5-BKT	48523	PLC-CNC-C60-MT5-SPD
	48227	PLC-CNC-C60-MT6	48634	PLC-CNC-MT6-BKT	48524	PLC-CNC-C60-MT6-SPD

Live Center Style			Bearings and Seals Kit*		Live Center Shaft*	
Live Center Style	UPC 733101-	Description	UPC 733101-	Description	UPC 733101-	Description
CNC High Speed Heavy Duty Live Center with 60º Extended Medium Slim Steel Point Page A-22 - A-23	48282	PLC-CNC-EMSSP-MT3	48631	PLC-CNC-MT3-BKT	48075	PLC-CNC-EMSSP-MT3-SPD
	48283	PLC-CNC-EMSSP-MT4	48632	PLC-CNC-MT4-BKT	48076	PLC-CNC-EMSSP-MT4-SPD
	48284	PLC-CNC-EMSSP-MT5	48633	PLC-CNC-MT5-BKT	48077	PLC-CNC-EMSSP-MT5-SPD
	48285	PLC-CNC-EMSSP-MT6	48634	PLC-CNC-MT6-BKT	48078	PLC-CNC-EMSSP-MT6-SPD
CNC High Speed Heavy Duty Live Center with 60º Extended Medium Slim Carbide Point Page A-22 - A-23	48286	PLC-CNC-EMSCP-MT3	48631	PLC-CNC-MT3-BKT	48079	PLC-CNC-EMSCP-MT3-SPD
	48287	PLC-CNC-EMSCP-MT4	48632	PLC-CNC-MT4-BKT	48080	PLC-CNC-EMSCP-MT4-SPD
	48288	PLC-CNC-EMSCP-MT5	48633	PLC-CNC-MT5-BKT	48081	PLC-CNC-EMSCP-MT5-SPD
	48289	PLC-CNC-EMSCP-MT6	48634	PLC-CNC-MT6-BKT	48082	PLC-CNC-EMSCP-MT6-SPD
CNC High Speed Heavy Duty Live Center with 60º Extended Small Slim Steel Point Page A-24 - A-25	48600	PLC-CNC-ESSSP-MT3	48631	PLC-CNC-MT3-BKT	48525	PLC-CNC-ESSSP-MT3-SPD
	48601	PLC-CNC-ESSSP-MT4	48632	PLC-CNC-MT4-BKT	48526	PLC-CNC-ESSSP-MT4-SPD
	48602	PLC-CNC-ESSSP-MT5	48633	PLC-CNC-MT5-BKT	48527	PLC-CNC-ESSSP-MT5-SPD
	48603	PLC-CNC-ESSSP-MT6	48634	PLC-CNC-MT6-BKT	48528	PLC-CNC-ESSSP-MT6-SPD
CNC High Speed Heavy Duty Live Center with 60º Extended Small Slim Carbide Point Page A-24 - A-25	48604	PLC-CNC-ESSCP-MT3	48631	PLC-CNC-MT3-BKT	48529	PLC-CNC-ESSCP-MT3-SPD
	48605	PLC-CNC-ESSCP-MT4	48632	PLC-CNC-MT4-BKT	48530	PLC-CNC-ESSCP-MT4-SPD
	48606	PLC-CNC-ESSCP-MT5	48633	PLC-CNC-MT5-BKT	48531	PLC-CNC-ESSCP-MT5-SPD
	48607	PLC-CNC-ESSCP-MT6	48634	PLC-CNC-MT6-BKT	48532	PLC-CNC-ESSCP-MT6-SPD
CNC High Speed Heavy Duty Live Center with 60º Extended Large Slim Steel Point Page A-26 - A-27	48608	PLC-CNC-ELSSP-MT3	48631	PLC-CNC-MT3-BKT	48083	PLC-CNC-ELSSP-MT3-SPD
	48609	PLC-CNC-ELSSP-MT4	48632	PLC-CNC-MT4-BKT	48084	PLC-CNC-ELSSP-MT4-SPD
	48610	PLC-CNC-ELSSP-MT5	48633	PLC-CNC-MT5-BKT	48085	PLC-CNC-ELSSP-MT5-SPD
	48611	PLC-CNC-ELSSP-MT6	48634	PLC-CNC-MT6-BKT	48086	PLC-CNC-ELSSP-MT6-SPD
CNC High Speed Heavy Duty Live Center with 60º Extended Large Slim Carbide Point Page A-26 - A-27	48612	PLC-CNC-ELSCP-MT3	48631	PLC-CNC-MT3-BKT	48087	PLC-CNC-ELSCP-MT3-SPD
	48613	PLC-CNC-ELSCP-MT4	48632	PLC-CNC-MT4-BKT	48088	PLC-CNC-ELSCP-MT4-SPD
	48614	PLC-CNC-ELSCP-MT5	48633	PLC-CNC-MT5-BKT	48089	PLC-CNC-ELSCP-MT5-SPD
	48615	PLC-CNC-ELSCP-MT6	48634	PLC-CNC-MT6-BKT	48090	PLC-CNC-ELSCP-MT6-SPD
CNC High Speed Heavy Duty Live Center with 60º Extended Large Steel Point Page A-28 - A-29	48232	PLC-CNC-ELSP-MT3	48631	PLC-CNC-MT3-BKT	48091	PLC-CNC-ELSP-MT3-SPD
	48233	PLC-CNC-ELSP-MT4	48632	PLC-CNC-MT4-BKT	48092	PLC-CNC-ELSP-MT4-SPD
	48234	PLC-CNC-ELSP-MT5	48633	PLC-CNC-MT5-BKT	48093	PLC-CNC-ELSP-MT5-SPD
	48235	PLC-CNC-ELSP-MT6	48634	PLC-CNC-MT6-BKT	48094	PLC-CNC-ELSP-MT6-SPD
CNC High Speed Heavy Duty Live Center with 60º Extended Large Carbide Point Page A-28 - A-29	48236	PLC-CNC-ELCP-MT3	48631	PLC-CNC-MT3-BKT	48095	PLC-CNC-ELCP-MT3-SPD
	48237	PLC-CNC-ELCP-MT4	48632	PLC-CNC-MT4-BKT	48096	PLC-CNC-ELCP-MT4-SPD
	48238	PLC-CNC-ELCP-MT5	48633	PLC-CNC-MT5-BKT	48097	PLC-CNC-ELCP-MT5-SPD
	48239	PLC-CNC-ELCP-MT6	48634	PLC-CNC-MT6-BKT	48098	PLC-CNC-ELCP-MT6-SPD
CNC High Speed Heavy Duty Live Center for Interchangeable Points Page A-30 - A-31	48228	PLC-CNC-INT-MT3	48631	PLC-CNC-MT3-BKT	48099	PLC-CNC-INT-MT3-SPD
	48229	PLC-CNC-INT-MT4	48632	PLC-CNC-MT4-BKT	48100	PLC-CNC-INT-MT4-SPD
	48230	PLC-CNC-INT-MT5	48633	PLC-CNC-MT5-BKT	48101	PLC-CNC-INT-MT5-SPD
	48231	PLC-CNC-INT-MT6	48634	PLC-CNC-MT6-BKT	48102	PLC-CNC-INT-MT6-SPD
CNC Super High Speed Heavy Duty Live Center with 60º Standard Carbide Point Page A-32 - A-33	48240	PLC-SPA-S60-MT3	48635	PLC-SPA-MT3-BKT	48103	PLC-SPA-S60-MT3-SPD
	48241	PLC-SPA-S60-MT4	48636	PLC-SPA-MT4-BKT	48104	PLC-SPA-S60-MT4-SPD
	48242	PLC-SPA-S60-MT5	48637	PLC-SPA-MT5-BKT	48105	PLC-SPA-S60-MT5-SPD
CNC Super High Speed Heavy Duty Live Center with 60º Standard Carbide Point Page Page A-32 - A-33	48290	PLC-SPA-C60-MT3	48635	PLC-SPA-MT3-BKT	48106	PLC-SPA-C60-MT3-SPD
	48291	PLC-SPA-C60-MT4	48636	PLC-SPA-MT4-BKT	48107	PLC-SPA-C60-MT4-SPD
	48292	PLC-SPA-C60-MT5	48637	PLC-SPA-MT5-BKT	48108	PLC-SPA-C60-MT5-SPD
CNC Super High Speed Heavy Duty Live Center with 60º Extended Medium Slim Steel Point Page A-34 - A-35	48293	PLC-SPA-EMSSP-MT3	48635	PLC-SPA-MT3-BKT	48109	PLC-SPA-EMSSP-MT3-SPD
	48294	PLC-SPA-EMSSP-MT4	48636	PLC-SPA-MT4-BKT	48110	PLC-SPA-EMSSP-MT4-SPD
	48295	PLC-SPA-EMSSP-MT5	48637	PLC-SPA-MT5-BKT	48111	PLC-SPA-EMSSP-MT5-SPD
CNC Super High Speed Heavy Duty Live Center with 60º Extended Medium Slim Carbide Point Page A-34 - A-35	48296	PLC-SPA-EMSCP-MT3	48635	PLC-SPA-MT3-BKT	48112	PLC-SPA-ECSP-MT3-SPD
	48297	PLC-SPA-EMSCP-MT4	48636	PLC-SPA-MT4-BKT	48113	PLC-SPA-ECSP-MT4-SPD
	48298	PLC-SPA-EMSCP-MT5	48637	PLC-SPA-MT5-BKT	48114	PLC-SPA-ECSP-MT5-SPD
CNC Super High Speed Heavy Duty Live Center with 60º Extended Large Steel Point Page A-36 - A-37	48246	PLC-SPA-ELSP-MT3	48635	PLC-SPA-MT3-BKT	48115	PLC-SPA-ESLP-MT3-SPD
	48247	PLC-SPA-ELSP-MT4	48636	PLC-SPA-MT4-BKT	48116	PLC-SPA-ESLP-MT4-SPD
	48248	PLC-SPA-ELSP-MT5	48637	PLC-SPA-MT5-BKT	48117	PLC-SPA-ESLP-MT5-SPD
CNC Super High Speed Heavy Duty Live Center with 60º Extended Large Carbide Point Page A-36 - A-37	48249	PLC-SPA-ELCP-MT3	48635	PLC-SPA-MT3-BKT	48118	PLC-SPA-ECLP-MT3-SPD
	48250	PLC-SPA-ELCP-MT4	48636	PLC-SPA-MT4-BKT	48119	PLC-SPA-ECLP-MT4-SPD
	48251	PLC-SPA-ELCP-MT5	48637	PLC-SPA-MT5-BKT	48120	PLC-SPA-ECLP-MT5-SPD



The Perfetta™ Face Driver is engineered to drive a work-piece without clamping the outside diameter, allowing a precision turning of the workpiece over the entire length in one set-up and one operation.

The Perfetta™ Face Driver develops a Thrust Force through a Mechanical Compensation system. This is accomplished by compensating the gripping force for on even workpiece ends, providing a positive & universal drive for turning forward or backward rotation, turning toward and away from the Face Driver. The center of the Perfetta™ Face Driver and radial turning, is Spring Loaded, providing a longitudinal stop to the workpiece, making the machining easy, accurate and productive.

The Perfetta™ Face Driver is built with Chromium-Molybdenum Alloy Steel, surface harden to 62 Rc and precision ground, for strength durability, accuracy and precise performance. The precise turning concentricity of the workpiece reduces the amount of material needed for grinding.
This reduces the grinding operation time drastically.

Driving Range

Metric		Inch	
From	To	From	To
12	25	0.472	0.984
22	47	0.866	1.850
40	70	1.574	2.755
57	90	2.244	3.543

Shank Size

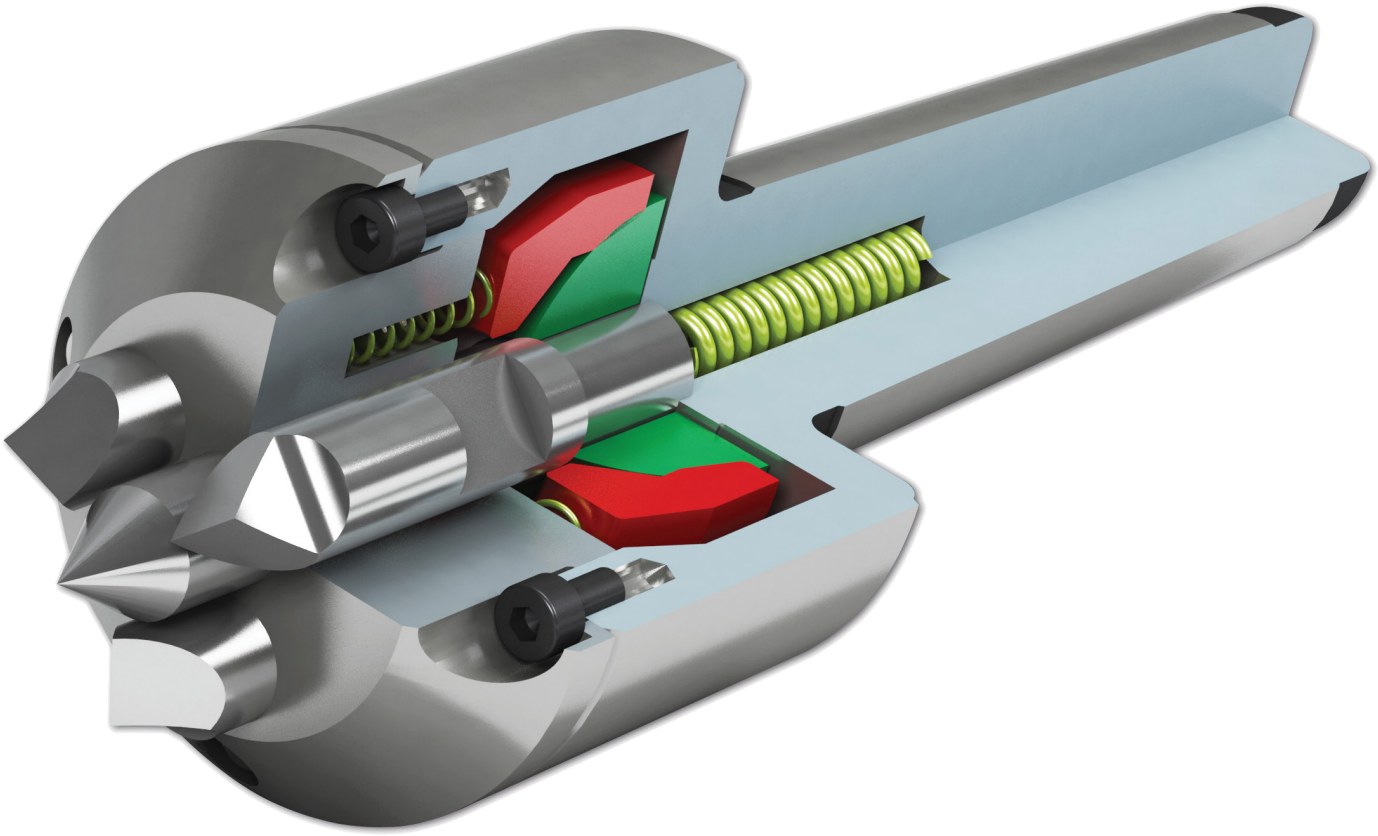
MT3	Morse Taper
MT4	Morse Taper
MT5	Morse Taper
MT6	Morse Taper
30mm	Cylindrical Shank

The Mechanical and Compact Design of the Dorian Face Driver is

Accurate Powerful Simple Reliable

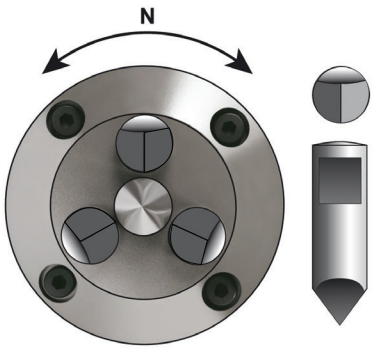
Engineered for Proven Performance!

In turning operations the center point of the Face Driver, holds the work piece with high rigidity, accuracy and concentricity. The Driver Pins, engage and drive the working piece with a constant force safely and reliably.



Driving Rotation

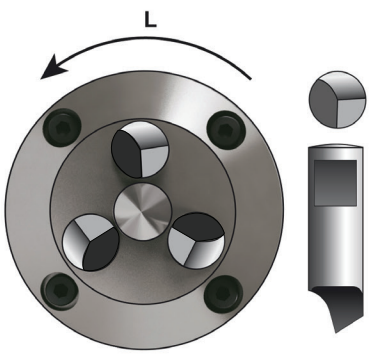
Clockwise & Counter Clockwise



Neutral Pin

Driving Rotation

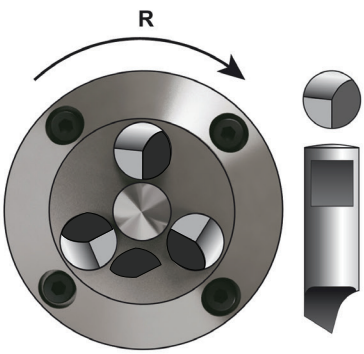
Counter Clockwise



Right Pin

Driving Rotation

Clockwise

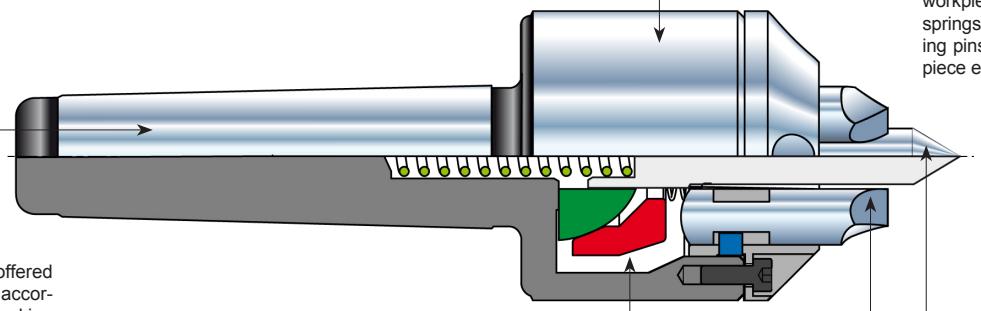


Left Pin

Constant Face Driver & Driving Pins	T.I.R. 0.00040"

Features	Application	Suggested Lathe
• Turning the entire length of the workpiece from end to end in one single set-up and operation • Turning between Centers with Constant Driving Force • The Center is Spring Loaded, providing a longitudinal stop to the workpiece, making the machining easy, accurate & productive • High Precise Concentricity, maximum run-out .0004" • The Body of the Face Driver offers good tool clearance and chip flow • Very little material required for Grinding operation • Quick loading and unloading of the workpiece • The Center is heat treated to withstand repeated regrinding	• For Turning the Full Length of the Workpiece • For Turning Shafts and Solid Bars • For Turning all Types of Workpiece, where Centers are Permissible • For Turning in any Rotations and Directions • For High Precision Turning • For High Automated and CNC Set-Up • For High Production Environment	• All types of CNC Machine Centers • Manual Lathes

Double Shield High Pressure Coolant Resistance!



Driving Head
The Driving Head is engineered powerful and compact, to minimize the chucking overhang, space restriction and higher tool clearance. The Driving Head contains the spring loaded center Point that holds the workpiece and the mechanical and springs system. This allows the driving pins to grip the face of the workpiece end drive it while machining.

Mounting Body
The Mounting Body is offered in multi configurations, in accordance to the machine locking system; taper shank, straight shank, flange style and special mounting.

Center Point
The spring loaded center point provides a longitudinal workpiece stop and a precise concentricity of .0004" (.01mm).

Driving Mechanism
Driving Mechanism- is a mechanical device that controls the positioning of the driving pins in relation with the center point. The live center provides the axial forces to push the spring-loaded center point back into the face driver head until the driving pins engage the face of the workpiece. In increasing axial force, the driving pins penetrate the workpiece completing the gripping operation, while the center point holds the workpiece in the axial of rotation.

Driving Pin
Driving Pins are interchangeable and simple to remove. Made of High Speed Tool Steel, heat treated and ground. The mechanic system with the compression springs compensate for Out of Square workpiece, allowing the Driving Pins to full engage on the face of the workpiece with the same depth.

The (Fa) Axial Force

The Axial Force (Fa) is the force required to drive the workpiece in the turning operation.

The Axial Force (Fa) is applied from the Live Center or Bull Nose. The Live Center or Bull Nose will force the edge O.D. the I.D. tubes or pipes to engage with the **Driver Blades**.

The Driver Blade will securely grip the work piece, and drive for the turning operation

References

1.	Fa	Axial Force
2.	dw	Workpiece diameter
3.	Dr	Driving Ratio
4.	dg	Driving grip diameter
5.	ap	Depth of Cut
6.	fn	Feed per Revolution
7.	Sq	Chip Size
8.	daN	Deca Newton
9.	lb	Pound Force
10.	df	Direction Cutting Factor

The (Fa) Axial Force Formula

Metric Value

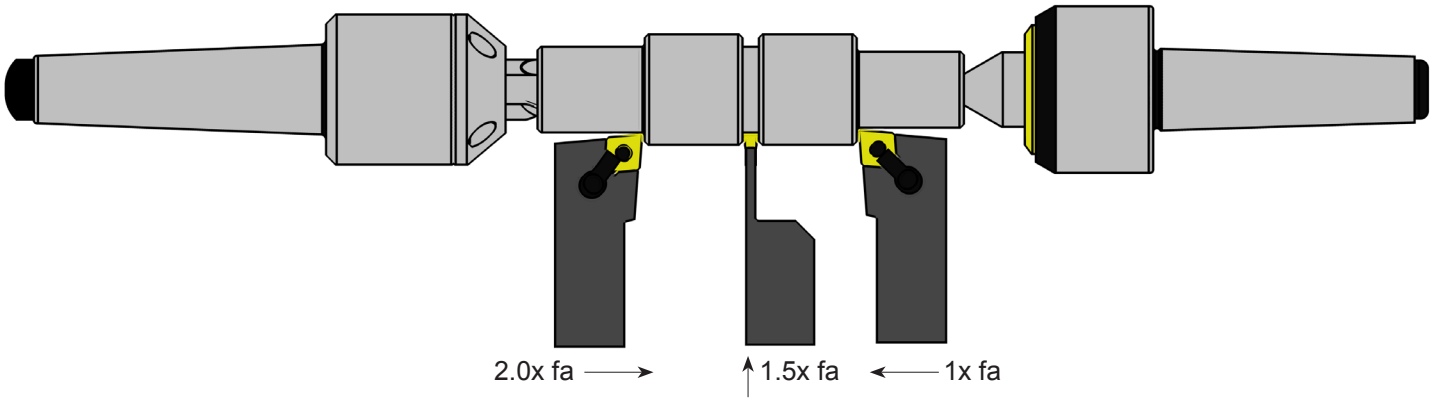
Fa (daN) = (Dw ÷ dg) x (ap x fn x 100) +200

Inch Value

Fa (lb) = (Dw ÷ dg) x (ap x fn x 64520) +200 x 2.2

The Axial Force, will change with the:

Workpiece Diameter	Depth of Cut
Gripping Diameter	Cutting Direction
Depth of Cut	Material Strength



Example: To calculate (Fa) Axial Force Apply the *value to the formula shown above

dw Diameter of the workpiece	***100mm**	***4.00"**
dg Driving grip Diameter	***50mm**	***2.00"**

ap Depth of cut	***3.0mm**	***0.118"**
fn Feed per revolution	***0.2mm**	***0.008"**

Metric Value

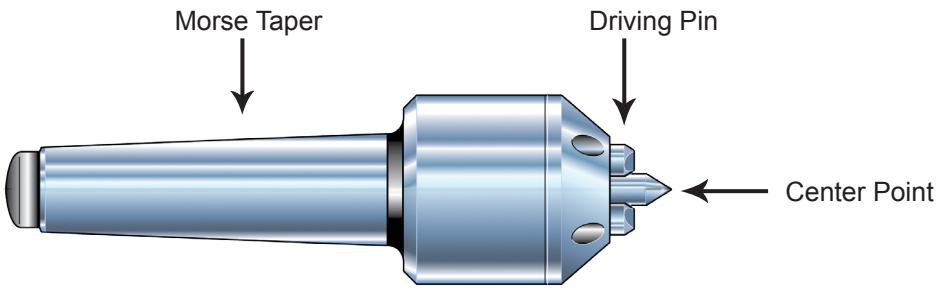
Fa (daN) = (100 ÷ 50) x (3.0 x 0.2 x 100) + 200 = 320 daN

Inch Value

Fa (lb) = (4.00 ÷ 2.00) x (0.118 X 0.008 x 6452) + 200 x 2.2 = 704 lb

Changes of Axial Force

Cutting Direction.		**Material Tensile Strength**	**Multi Cutting Tools (Fa)**
The (Fa) Axial Force required in the turning operation, changes with Cutting Direction. Multiply the (Fa) time the direction factor (df)		The formula and chart data are for turning materials with a Tensilee strength up to 20000 psi (700 N/mm2). The Axial Force must be increased by 10% for every 2000 psi (100 N/mm2).	When using multi cutting tools simultaneously, the Axial Force of each tool must be calculated and added, to find the total (Fa) Axial Force required.
Cutting Direction Factor	(df) Factor		
Turning toward the Face Drive	1		
Radial	1 1/2		
Turning toward the Live Center	2		



High Performance Perfetta™ Constant Face Driver Identification System

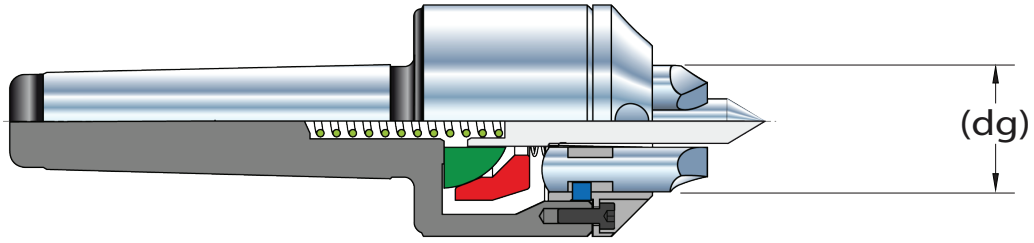
Style	Size	Morse Taper Bushing
PLC - Perfetta™ Live Center **FD** - Face Driver **FDP** - Face Driver Pin	**SS30** - Straight Shank Size 30 x 65 **MT3** - Morse Taper Size 3 **MT4** - Morse Taper Size 4 **MT5** - Morse Taper Size 5 **MT6** - Morse Taper Size 6	**MTB3** - M.T. Bushing Size 3 **MTB4** - M.T. Bushing Size 4 **MTB5** - M.T. Bushing Size 5 **MTB6** - M.T. Bushing Size 6

PLC-FD	12	MT2	INP	MT3

Min. Diameter	Position
12 - 12mm(.472") Minimum Diameter **22** - 22mm (.866") Minimum Diameter **42** - 42mm(1.654") Minimum Diameter **65** - 65mm(2.559") Minimum Diameter	**N**- Neutral Position **L**- Left Hand **R**- Right Hand **C**- Center Nose **OSC**- Over Size Center Nose

How to Select a Constant Face Driver

1. Determine the **finished diameter** (dw) of the workpiece at the driving face.
2. The workpiece **starting Diameter,** should never be 3 times larger of the maximum gripping diameter
3. Choose the face driver series whose maximum **driving grip diameter** (dg) is smaller than the finish diameter (dw).
4. Determine the rotation of the headstock to determine driving pin Rotation
5. Choose the mounting styles (morse taper shank, cylindrical shank, direct mounting)



Driving Range

Metric		Inch	
From	To	From	To
12	25	0.472	0.984
22	47	0.866	1.850
40	70	1.574	2.755
57	90	2.244	3.543

Shank Size

MT3	Morse Taper
MT4	Morse Taper
MT5	Morse Taper
MT6	Morse Taper
30mm	Cylindrical Shank

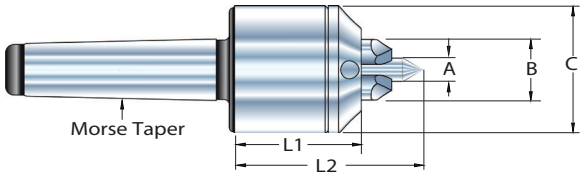
For High Precision Turning

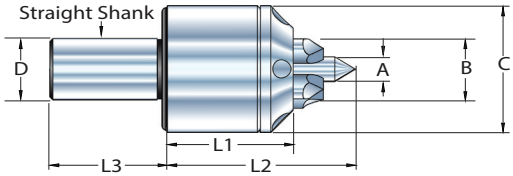
Constant Face Driver with Morse Taper

Constant Face Driver with Straight Shank

12mm (.472") Minimum Diameter

Constant Face Driver with Morse Taper and Constant Face Driver with Straight Shank





UPC 733101-	Constant Face Driver Straight Shank Description	System	Capacity Min.	Capacity Max.	A	B (dg)	C	L1	L2	Straight Shank D	Straight Shank L3	Weight (lb)/(kg)
48353	PLC-FD-12-SS30	in	0.47	1.00	0.32	0.79	1.90	2.05	2.64	1.187	2.5	1.98
		mm	12	25	8	20	48	52	67	30	65	0.9
UPC 733101-	Constant Face Driver Morse Taper Description	System	Capacity Min.	Capacity Max.	A	B (dg)	C	L1	L2	Morse Taper		Weight (lb)/(kg)
48354	PLC-FD-12-MT3	in	0.47	1.00	0.32	0.79	1.90	2.05	2.64	MT3		1.98
		mm	12	25	8	20	48	52	67	MT3		0.9
48355	PLC-FD-12-MT4	in	0.47	1.00	0.32	0.79	1.90	2.05	2.64	MT4		2.64
		mm	12	25	8	20	48	52	67	MT4		1.2

UPC 733101-	Driving Pin Description	UPC 733101-	Driving Pin Description	UPC 733101-	Driving Pin Description	UPC 733101-	Center Point Description
48367	PLC-FDP-12-N	48368	PLC-FDP-12-L	48369	PLC-FDP-12-R	48370	PLC-FDP-12-C
Clockwise & Counter Clockwise		Counter Clockwise		Clockwise		60º Center Point	

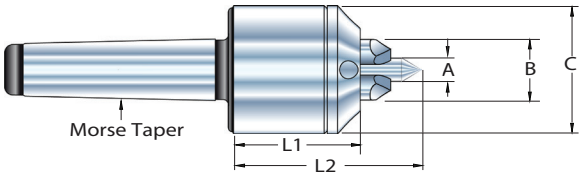
For High Precision Turning

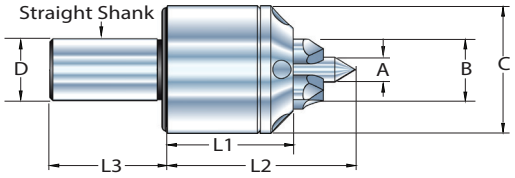
Constant Face Driver with Morse Taper

Constant Face Driver with Straight Shank

22mm (.866") Minimum Diameter

Constant Face Driver with Morse Taper and Constant Face Driver with Straight Shank





UPC 733101-	Constant Face Driver Straight Shank Description	System	Capacity Min.	Capacity Max.	A	B (dg)	C	L1	L2	Straight Shank D	Straight Shank L3	Weight (lb)/(kg)
48356	PLC-FD-22-SS30	in	1.18	1.85	0.47	1.18	2.44	2.52	3.39	1.187	2.5	3.30
		mm	30	47	12	30	62	64	86	30	65	1.5
UPC 733101-	Constant Face Driver Morse Taper Description	System	Capacity Min.	Capacity Max.	A	B (dg)	C	L1	L2	Morse Taper		Weight (lb)/(kg)
48357	PLC-FD-22-MT3	in	1.18	1.85	0.47	1.18	2.44	2.52	3.39	MT3		3.30
		mm	30	47	12	30	62	64	86	MT3		1.5
48358	PLC-FD-22-MT4	in	1.18	1.85	0.47	1.18	2.44	2.52	3.39	MT4		5.94
		mm	30	47	12	30	62	64	86	MT4		2.7
48359	PLC-FD-22-MT5	in	1.18	1.85	0.47	1.18	2.44	2.52	3.39	MT5		8.58
		mm	30	47	12	30	62	64	86	MT5		3.9

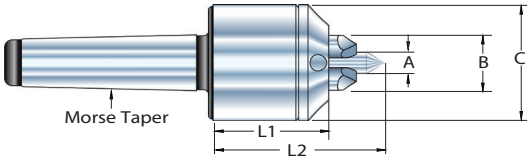
UPC 733101-	Driving Pin Description	UPC 733101-	Driving Pin Description	UPC 733101-	Driving Pin Description	UPC 733101-	Center Point Description
48371	PLC-FDP-22-N	48372	PLC-FDP-22-L	48373	PLC-FDP-22-R	48374	PLC-FDP-22-C
Clockwise & Counter Clockwise		Counter Clockwise		Clockwise		60° Center Point	

For High Precision Turning

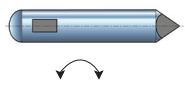
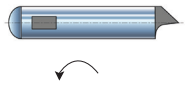
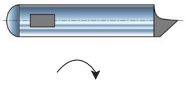
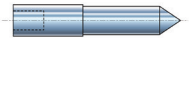
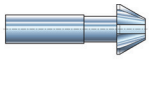
Constant Face Driver with Morse Taper

42mm (1.654") Minimum Diameter

Constant Face Driver with Morse Taper



UPC 733101-	Constant Face Driver Morse Taper Description	System	Capacity Min.	Capacity Max.	A	B (dg)	C	L1	L2	Morse Taper	Weight (lb)/(kg)
48360	PLC-FD-42-MT4	in	1.575	2.756	.71	1.61	3.43	3.740	4.921	MT4	9.5
		mm	40	70	18	41	87	95	125	MT4	4.3
48361	PLC-FD-42-MT5	in	1.575	2.756	.71	1.61	3.43	3.740	4.921	MT5	11.7
		mm	40	70	18	41	87	95	125	MT5	5.3
48362	PLC-FD-42-MT6	in	1.575	2.756	.71	1.61	3.43	3.740	4.921	MT6	17.2
		mm	40	70	18	41	87	95	125	MT6	7.8

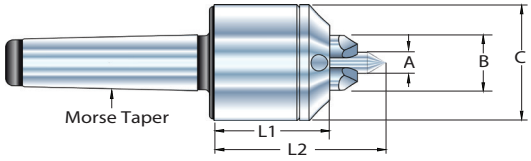
UPC 733101-	Driving Pin Description	UPC 733101-	Driving Pin Description	UPC 733101-	Driving Pin Description	UPC 733101-	Center Point Description	UPC 733101-	Center Point Description
48375	PLC-FDP-42-N	48376	PLC-FDP-42-L	48377	PLC-FDP-42-R	48378	PLC-FDP-42-C	48379	PLC-FDP-42-OSC
Clockwise & Counter Clockwise 		Counter Clockwise 		Clockwise 		60º Center Point 		60º Large Center Point 	

For High Precision Turning

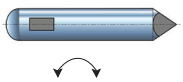
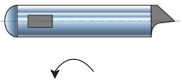
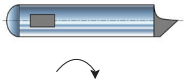
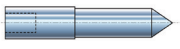
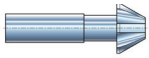
Face Driver with Morse Taper

65mm (2.559") Minimum Diameter

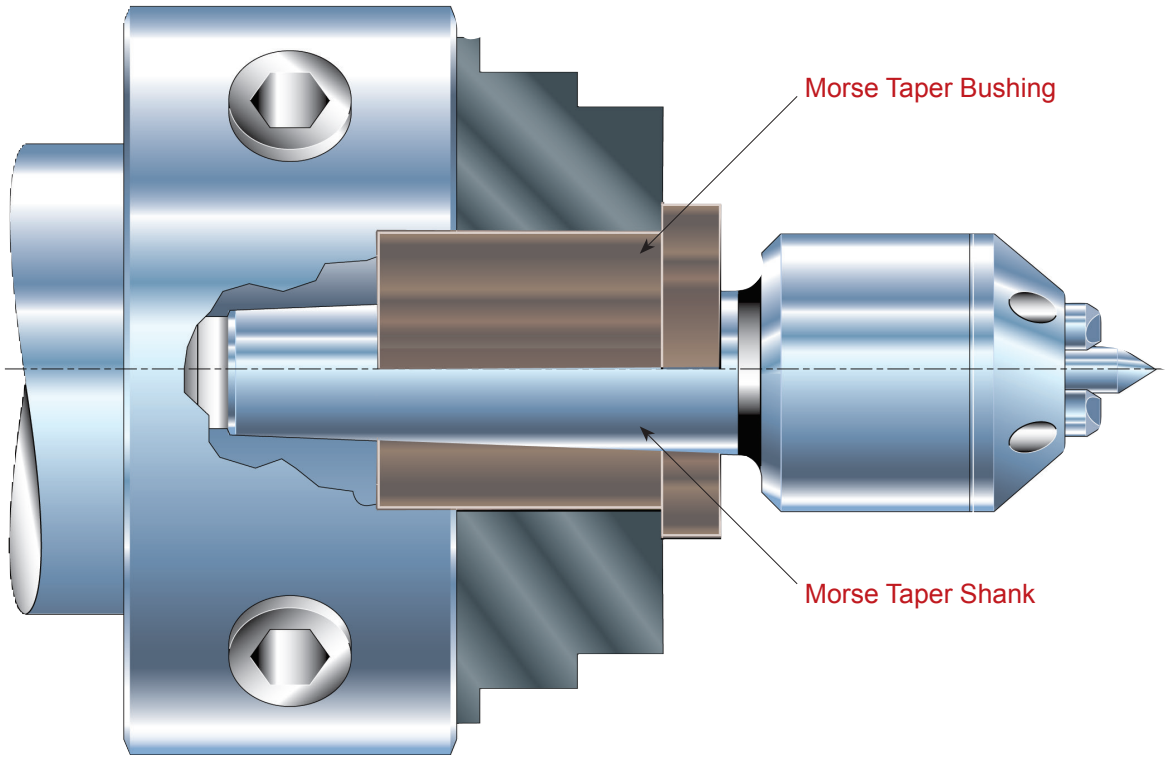
Constant Face Driver with Morse Taper



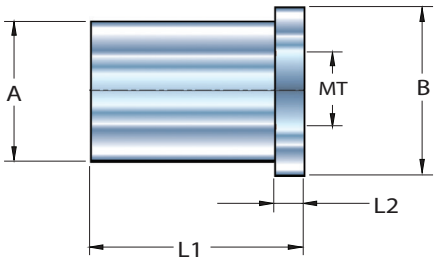
UPC 733101-	Constant Face Driver Morse Taper Description	System	Capacity Min.	Capacity Max.	A	B (dg)	C	L1	L2	Morse Taper	Weight (lb)/(kg)
48363	PLC-FD-65-MT4	in	2.25	3.55	0.91	2.25	4.29	3.94	5.51	MT4	15.40
		mm	57	90	23	57	109	100	140	MT4	7.0
48364	PLC-FD-65-MT5	in	2.25	3.55	0.91	2.25	4.29	3.94	5.51	MT5	18.00
		mm	57	90	23	57	109	100	140	MT5	8.2
48365	PLC-FD-65-MT6	in	2.25	3.55	0.91	2.25	4.29	3.94	5.51	MT6	21.00
		mm	57	90	23	57	109	100	140	MT6	9.5

UPC 733101-	Driving Pin Description	UPC 733101-	Driving Pin Description	UPC 733101-	Driving Pin Description	UPC 733101-	Center Point Description	UPC 733101-	Center Point Description
48380	PLC-FDP-65-N	48381	PLC-FDP-65-L	48382	PLC-FDP-65-R	48383	PLC-FDP-65-C	48384	PLC-FDP-65-OSC
Clockwise & Counter Clockwise 		Counter Clockwise 		Clockwise 		60° Center Point 		60° Large Center Point 	

For High Precision Turning



Morse Taper Bushing for Face Driver



UPC 733101-	Description	System	A	B	L1	L2	Morse Taper	Weight (lb)/(kg)
48385	PLC-FD-MTB3	in	1.38	1.73	2.56	0.32	MT3	0.70
		mm	35	44	65	8	MT3	0.3
48386	PLC-FD-MTB4	in	1.64	1.93	2.76	0.32	MT4	1.00
		mm	42	49	70	8	MT4	0.5
48387	PLC-FD-MTB5	in	2.13	2.32	3.15	0.39	MT5	1.32
		mm	54	59	80	10	MT5	0.6
48388	PLC-FD-MTB6	in	2.96	3.31	3.35	0.39	MT6	1.65
		mm	75	84	85	10	MT6	0.8

Specials

CNC Dead Center

CNC Carbide Bull Nose

Live Center

Direct Spindle Mounting Live Center

Direct Spindle Mounting Live Center

Dead Center

Driver

Driver

Driver

Customer to use graph below to illustrate special.

Quote No.	P.O. No.

To be Completed by Dorian Tool Engineering Department			
Recommended By :	UPC No. 733101-	Description	Delivery
CNC Dead Center			
CNC Carbide Bull Nose			
Live Center			
Direct Spindle Mounting Live Center			
Dead Center			
Driver			

Customer Information
Company Name:
Contact Name:
Phone No: ( )
Email:
Fax No: ( )
Address
Date:

NOTES: