

MCRT[®] 3120TA & 31200T Non-CONTACT PULLEY/SPROCKET TORQUEMETERS



To power and display Torque only, use a Model 701. To power and display Torque, Speed and HP, use a Model 721. See Bulletins 370 and 371.

- Installs in Small Spaces *Without* Pillow Blocks or Flexible Couplings
- Insensitive to Belt/Chain Loads
- Avoids Pillow Block Bearing Errors
- 250% Overload Ratings
- NIST Traceable Calibration*
- 4 mV/V Outputs
- Noise Hardened for VFD Applications
- Speed Pickup Option

*NIST traceable calibration performed in our accredited metrology laboratory (NVLAP Lab Code 200487-0); for details visit www.himmelstein.com or www.nist.gov.

Torque Meter Description

These devices are used to measure and control the torque, speed and power of belt and chain driven machinery. Neither pillow blocks, jack shafts or flexible couplings are needed for mounting. Thus, installation is simple, takes little space and jack shaft/pillow block bearing torque errors are avoided.

Constantan strain gages are bonded to a one piece corrosion resistant sensor. Belt/chain and clamping loads are canceled by the sensor design. Noise free rotary transformers provide non-contact coupling to the stator. They don't wear and are immune to lubricants and most hostile environments. Both the strain gages and torsion element are fatigue rated. That fact, as well as the brushless coupling insures long, maintenance-free life. All versions are hardened to noise from adjustable speed drives.

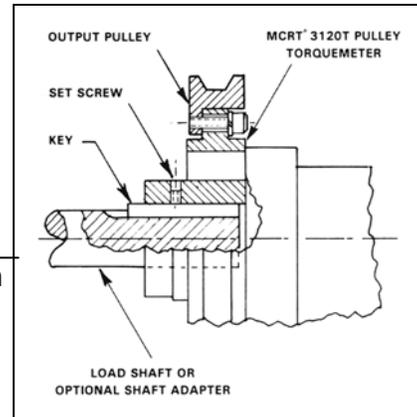
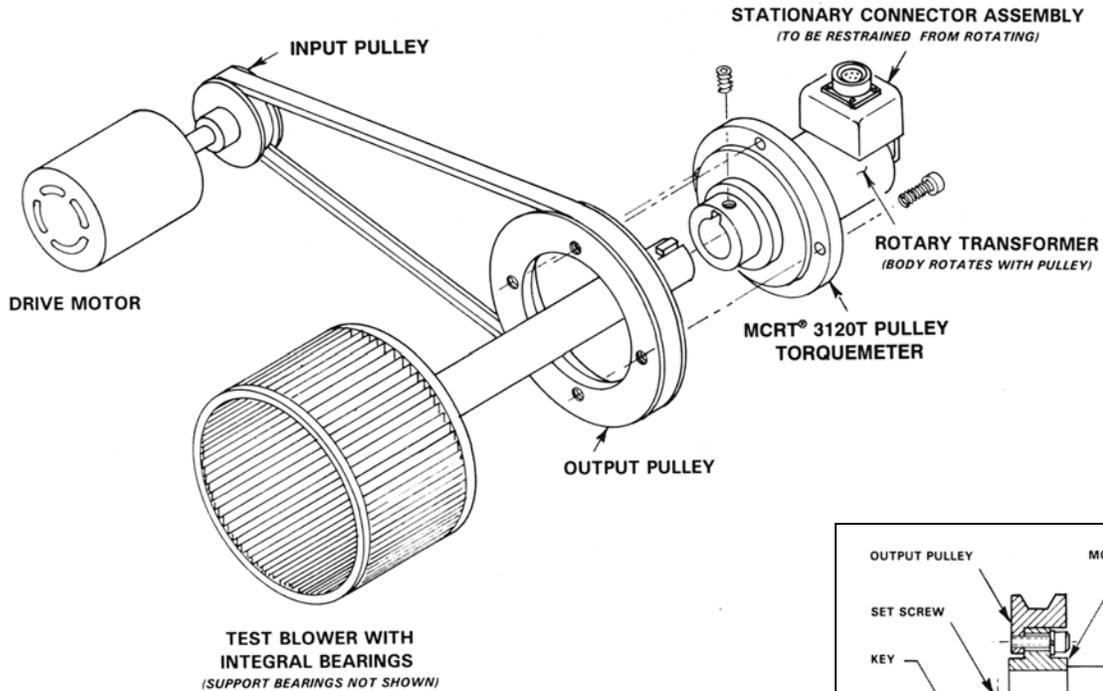
An MCRT[®] 3120TA has enhanced performance relative to an MCRT[®] 31200T (see overleaf). A speed pickup option is offered on both models. A Himmelstein Model 701 is recommended to readout Torque; the Model 721 handles Torque, Speed and computes Power. Both instruments have six digit Engineering Unit Displays, $\pm 10V$ analog outputs, limits, fast max/min capture, remote calibration and hold functions. They also have a com port and come with PC interface software and cable. See Bulletins 370 and 371 for complete specifications.

The customer usually installs the pulley or sprocket. However, they can be installed, at extra cost, by S. Himmelstein and Company. Because pulleys and sprockets are easily replaced, one Torquemeter can handle a wide range of tests.

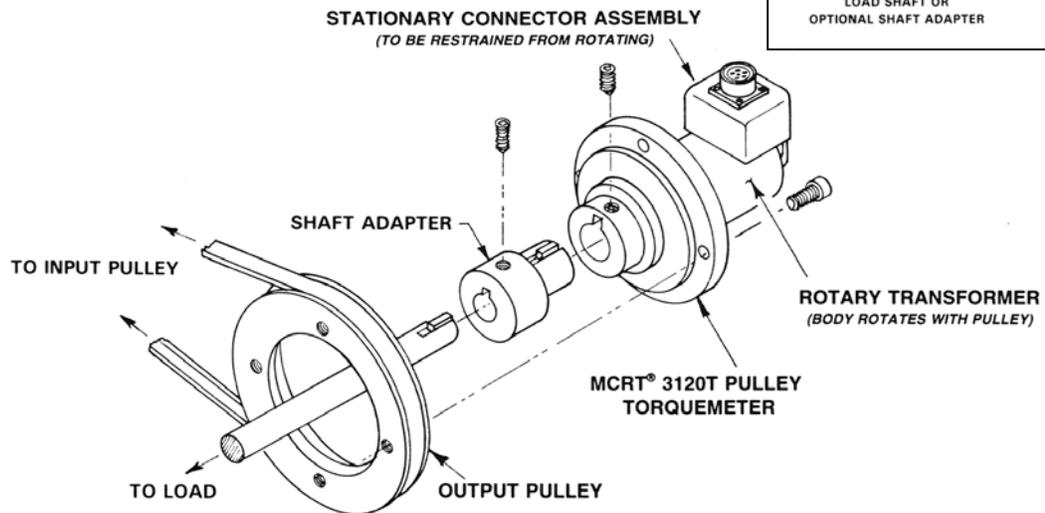
S. HIMMELSTEIN AND COMPANY

Measurement and Control Products Since 1960

MCRT® 3120TA & 31200T Pulley/Sprocket Torquemeter Installation Without Shaft Adapter

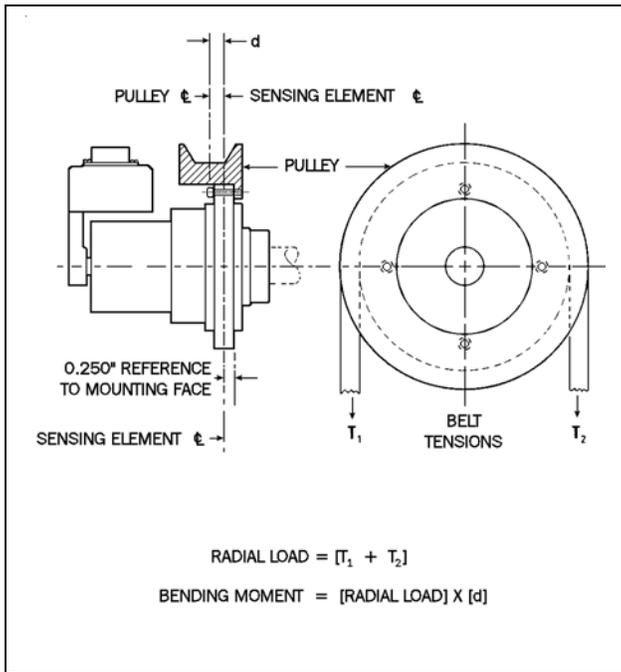


MCRT® 3120TA & 31200T Pulley/Sprocket Torquemeter Installation With Shaft Adapter



Model Numbering System

Model Number	MCRT® 31200T	(1-3)	A
Meaning	Model Number	Range	Speed Pickup Option: A if yes, N if no
An MCRT® 31200T(1-3)A is a Pulley/Sprocket Torquemeter rated 1,000 lbf-in with an installed Code A speed pickup option. The high performance version is a MCRT® 3120TA(1-3)A.			



Extraneous Load Definition

Typical Extraneous Load Crosstalk¹

Maximum radial and bending loads can be applied simultaneously with full scale torque.

Radial Load[R][lbs of Radial Load], % of Range
[Torque Range in lbf-in]

Bending Moment[B][Bending in lbf-in], % of Range
[Torque Range in lbf-in]

Clamping Load²
Effect on Zero.....[Z][lbs of Clamping Load], % of Range
[Torque Range in lbf-in]

Effect on Span..... [S][lbs of Clamping Load], % of Range
[Torque Range in lbf-in]

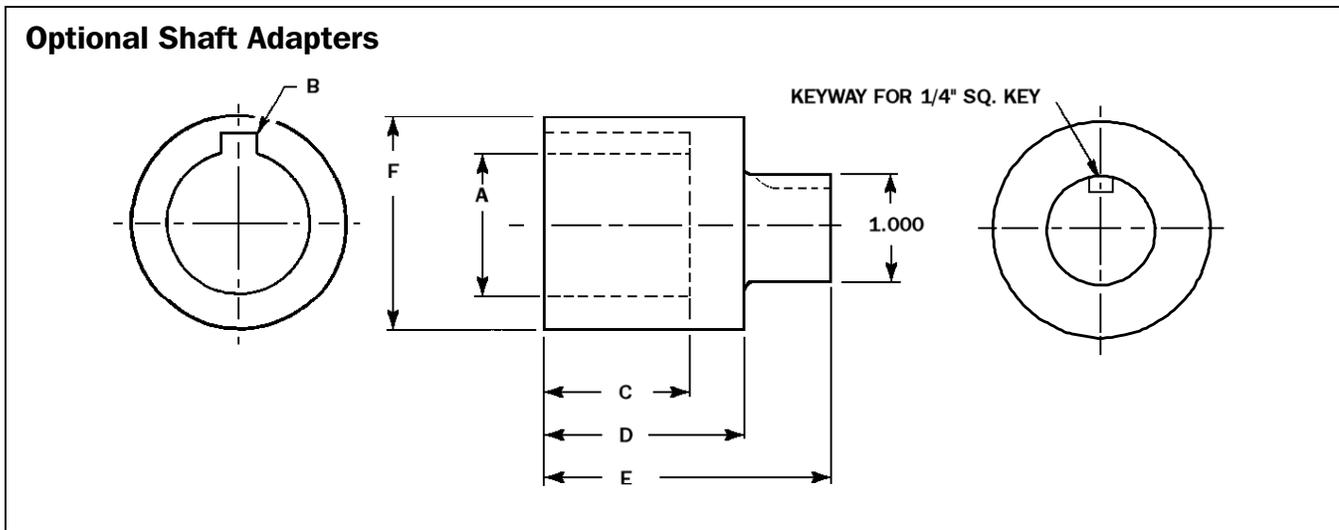
For MCRT® 31200T: R = 3.0 B = 3.0 Z = 0.4 S = 0.6

For MCRT® 3120TA: R = 1.5 B = 1.5 Z = 0.2 S = 0.3

1. Static Extraneous Load Effects may be electrically zeroed.
2. Assumes pulley mating surface is flat within 0.001".

Optional Shaft Adapters

Himmelstein offers adapters to mate any MCRT 3120TA or 31200T Series torque meter to round shafts with industry standard keyways. Diameters between 5/8" and 2 1/4" are accommodated; a 1" O.D. shaft doesn't require an adapter. Customers are encouraged to make adapters for non-standard shaft configurations and sizes. See sketch below.



Part Number	Maximum Torque (Includes allowable overload torque)		A	B Key Size	C	D	E	F
	[lbf-in]	[N-m]						
224-678501	500	56.5	0.625	3/16 square	1 1/4	1 47/64	3 23/64	2 1/2
224-678502	1,000	113	0.750	3/16 square	1 1/4	1 47/64	3 23/64	2 1/2
224-678601	3,000	339	1.250	1/4 square	2	2 5/8	4 1/4	3 1/2
224-678602	3,000	339	1.500	3/8 square	2	2 5/8	4 1/4	3 1/2
224-678603	3,000	339	1.750	3/8 square	2	2 5/8	4 1/4	3 1/2
224-678701	3,000	339	2.000	1/2 square	2 1/2	3 1/8	4 3/4	3 1/2
224-678702	3,000	339	2.250	1/2 square	2 1/2	3 1/8	4 3/4	3 1/2

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