



Product Brochure

Dodge[®] Motorized Torque-Arm[®] II gear reducer

The world's leading shaft mounted reducer now offers
a direct drive solution



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With 60 years of proven dependability and more than 1.8 million units in service throughout the world, Baldor•Dodge Torque-Arm belt driven speed reducers are the standard of the industry and the benchmark to which others are compared. Responding to overwhelming customer demand, we have now introduced a line of Heavy Duty right angle beltless Torque-Arm reducers for customers who need the power and performance of a truly rugged gearbox for more demanding applications.

Heavy Duty solution

- American Gear Manufacturers Association rated design offers approximately twice the bearing design life vs the competition's design practices
- Patented sealing system
- Straddle mount input pinion gives maximum torque throughput, no press-fit pinion
- Available in 1.5kW-75kW based on output speeds
- ALL tapered roller bearing design, no light duty ball bearings

Installed cost savings

- Reduced assembly time & guarding costs
- Reduced maintenance requirements

Compact, flexible drive design

- Reducer mounts in multiple positions
- Two motor speeds and multiple gear ratios provide a wide range of output speeds

Uses standard stocked Torque-Arm II accessories

- Standard and short shaft twin tapered bushings
- Industry leading backstop design
- Standard screw conveyor accessories
- Three-piece coupled design
- Optional metal or ABS polymer bushing covers

Patented twin taper bushing systems

- Twin Tapered Bushing system eliminates fretting corrosion and reducer wobble and can be installed with regular hand tools
- Standard Twin Taper Bushing system for full length shafts
- Short shaft bushing system to replace straight bore or single bushing reducer

Easy selection

- Part numbered product concept
- Easy Class I & II selection tables

Proven performance

- Rugged, high efficiency, case carburized helical/bevel gearing
- Used in Aggregates, Grain, Mining, Mixing, Milling, Ethanol



Reducer design features

Straddle mounted input pinion

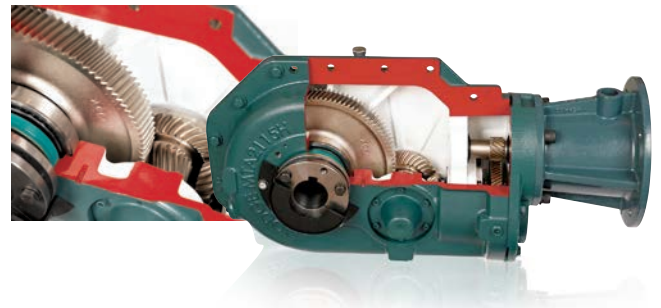
- The MTA pinion is straddle mounted between two bearings.
- This allows maximum torque transmission and eliminates the weak “press fit” pinion connection that is prevalent in the other mfr’s designs.

Adjustable bevel cartridge

- Intermediate bevel cartridge is adjustable and this allows contact pattern to be set perfectly every time.
- Maximum gear contact = maximum torque throughput and maximum gear life.

Tapered roller bearings

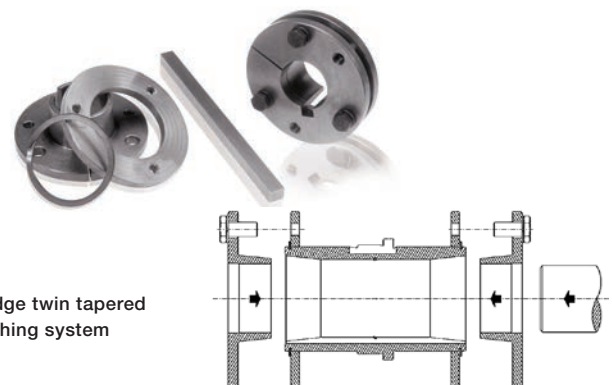
- Unlike some of the competing reducers, the MTA uses no ball bearings in the reducer.
- It is designed with heavy duty roller bearings for heavy duty applications.



Shaft mount features

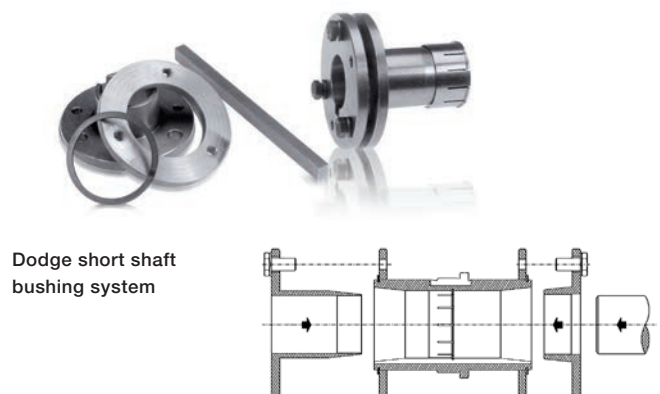
Dodge twin tapered bushing system (35mm-120mm)

- Provide sturdy, concentric grip of the driven shaft on both sides of the reducer.
- Eliminates the wobble and fretting corrosion associated with straight bore and single bushed reducers
- Full length key guarantees maximum torque transmission
- Installation and removal methods require no special tools



Dodge short shaft bushing system (35mm-110mm)

- Allows replacement of straight bore or single bushed reducers with the industry preferred Twin Tapered Bushing System.
- Full length key guarantees maximum torque transmission
- Extended outboard bushing reaches in and grabs the shorter shaft.
- Allows replacement of reducers with straight bore or single bushing designs



Dodge® motorized Torque-Arm® II shaft mount product line

MTA2115H Speeds and Motor kW's

MTA3203H Speeds and Motor kW's

MTA4207H Speeds and Motor kW's

MTA5215H Speeds and Motor kW's

Output rpm	Ratio	Class 1 Mtr kW	Mtr spd	Class 2 Mtr kW	Mtr spd	Output rpm	Ratio	Class 1 Mtr kW	Mtr spd	Class 2 Mtr kW	Mtr spd	Output rpm	Ratio	Class 1 Mtr kW	Mtr spd	Class 2 Mtr kW	Mtr spd	Output rpm	Ratio	Class 1 Mtr kW	Mtr spd	Class 2 Mtr kW	Mtr spd
18.84	76.96	2,2	1450	1,5	1450	19	76.02	4	1450	3	1450	19.71	73.57	5.5	1450	4	1450	20	71.98	11	1450	7,5	1450
20.37	71.18	2,2	1450	1,5	1450	21	70.30	4	1450	3	1450	21.91	66.17	7.5	1450	4	1450	22	64.74	11	1450	7,5	1450
21.95	66.07	3	1450	2,2	1450	22	65.26	4	1450	3	1450	23.75	61.04	7.5	1450	5,5	1450	24	59.73	11	1450	7,5	1450
24.87	58.29	3	1450	2,2	1450	25	57.58	4	1450	3	1450	28.04	51.72	7.5	1450	5,5	1450	29	50.61	15	1450	11	1450
26.94	53.82	3	1450	2,2	1450	29	50.68	5,5	1450	4	1450	29.57	49.04	7.5	1450	5,5	1450	30	47.99	15	1450	11	1450
30.56	47.45	4	1450	3	1450	31	46.87	5,5	1450	4	1450	32.87	44.11	11	1450	7,5	1450	34	43.16	18,5	1450	11	1450
32.92	44.05	4	1450	3	1450	33	43.51	5,5	1450	4	1450	35.63	40.70	11	1450	7,5	1450	36	39.82	18,5	1450	11	1450
37.31	38.86	4	1450	3	1450	38	38.39	7,5	1450	5,5	1450	39.42	73.57	11	2900	7,5	2900	40	71.98	22	2900	15	2900
40.41	35.88	5,5	1450	4	1450	41	35.44	7,5	1450	5,5	1450	42.05	34.48	11	1450	7,5	1450	43	33.74	22	1450	15	1450
43.89	66.07	5,5	2900	4	2900	44	65.26	7,5	2900	5,5	2900	43.83	66.17	11	2900	7,5	2900	45	64.74	22	2900	15	2900
45.11	32.15	5,5	1450	4	1450	46	31.75	7,5	1450	5,5	1450	47.51	61.04	15	2900	7,5	2900	49	59.73	22	2900	18,5	2900
48.92	29.64	5,5	1450	4	1450	50	29.28	7,5	1450	5,5	1450	48.25	30.05	15	1450	7,5	1450	49	29.41	22	1450	18,5	1450
53.88	53.82	5,5	2900	4	2900	57	50.68	7,5	2900	7,5	2900	56.07	51.72	15	2900	11	2900	57	50.61	30	2900	18,5	2900
58.30	24.87	7,5	1450	4	1450	59	24.57	11	1450	7,5	1450	56.71	25.57	15	1450	11	1450	58	25.05	30	1450	22	1450
61.12	47.45	7,5	2900	5,5	2900	62	46.87	11	2900	7,5	2900	59.13	49.04	15	2900	11	2900	60	47.99	30	2900	22	2900
65.84	44.05	7,5	2900	5,5	2900	67	43.51	11	2900	7,5	2900	65.74	44.11	18,5	2900	11	2900	67	43.16	30	2900	22	2900
68.34	21.22	7,5	1450	5,5	1450	69	20.96	11	1450	7,5	1450	66.45	21.82	18,5	1450	11	1450	68	21.35	30	1450	22	1450
74.62	38.86	7,5	2900	5,5	2900	76	38.39	11	2900	7,5	2900	71.25	40.70	18,5	2900	15	2900	73	39.82	37	2900	22	2900
80.82	35.88	7,5	2900	5,5	2900	82	35.44	15	2900	11	2900	81.05	17.89	22	1450	15	1450	83	17.50	37	1450	22	1450
82.01	17.68	7,5	1450	5,5	1450	83	17.46	15	1450	11	1450	84.11	34.48	22	2900	15	2900	86	33.74	37	2900	22	2900
90.21	32.15	7,5	2900	7,5	2900	91	31.75	15	2900	11	2900	96.51	30.05	22	2900	18,5	2900	99	29.41	37	2900	30	2900
97.84	29.64	11	2900	7,5	2900	99	29.28	15	2900	11	2900	113.41	25.57	22	2900	18,5	2900	116	25.05	45*	2900	30	2900
116.61	24.87	11	2900	7,5	2900	118	24.57	18,5	2900	11	2900	132.91	21.82	30*	2900	22	2900	136	21.35	45*	2900	30	2900
136.69	21.22	11	2900	7,5	2900	138	20.96	18,5	2900	15	2900	162.10	17.89	37*	2900	22	2900	166	17.50	45*	2900	37	2900
164.03	17.68	15	2900	11	2900	166	17.46	18,5	2900	15	2900	* Consult factory for thermal considerations											

MTA6307H Speeds and Motor kW's

MTA7315H Speeds and Motor kW's

MTA8407H Speeds and Motor kW's

Output rpm	Ratio	Class 1 Mtr kW	Mtr speed	Class 2 Mtr kW	Mtr speed	Output rpm	Ratio	Class 1 Mtr HP	Mtr speed	Class 2 Mtr kW	Mtr speed	Output rpm	Ratio	Class 1 Mtr kW	Mtr speed	Class 2 Mtr kW	Mtr speed
18.46	78.53	11	1450	7,5	1450	19	76.46	22	1450	15	1450	18	78.80	30	1450	18,5	1450
21.67	66.92	15	1450	11	1450	22	66.57	22	1450	15	1450	21	68.53	30	1450	22	1450
24.55	59.05	15	1450	11	1450	25	57.58	22	1450	18,5	1450	24	60.13	37	1450	22	1450
27.70	52.35	15	1450	15	1450	28	50.97	30	1450	22	1450	28	52.53	45	1450	30	1450
28.85	50.26	22	1450	15	1450	33	44.38	30	1450	22	1450	29	50.85	45	1450	30	1450
32.50	44.61	22	1450	15	1450	38	76.46	37	2900	30	2900	32	45.69	45	1450	37	1450
36.93	78.53	22	2900	15	2900	38	38.39	37	1450	30	1450	36	40.09	55	1450	37	1450
36.83	39.37	22	1450	15	1450	44	66.57	45	2900	30	2900	37	78.80	55	2900	37	2900
43.33	66.92	30	2900	22	2900	43	33.48	45	1450	30	1450	42	68.53	55	2900	45	2900
43.28	33.51	30	1450	22	1450	50	57.58	55	2900	37	2900	43	33.90	55	1450	45	1450
49.11	59.05	30	2900	22	2900	51	28.65	55	1450	37	1450	47	30.76	55	1450	45	1450
49.94	29.03	30	1450	22	1450	57	50.97	55	2900	37	2900	48	60.13	55	2900	45	2900
55.39	52.35	37	2900	22	2900	57	25.66	55	1450	37	1450	54	26.82	75*	1450	55	1450
57.70	50.26	37	2900	30	2900	65	44.38	55	2900	45	2900	55	52.53	75*	2900	55	2900
59.35	24.43	37	1450	30	1450	67	21.74	55	1450	45	1450	57	50.85	75*	2900	55	2900
65.00	44.61	45	2900	30	2900	76	38.39	75*	2900	45	2900	63	45.69	75*	2900	55	2900
65.78	22.04	45	1450	30	1450	77	18.77	75*	1450	55	1450	64	22.77	75*	1450	55	1450
73.66	39.37	45*	2900	37	2900	87	33.48	75*	2900	55	2900	72	40.09	75*	2900	75*	2900
76.53	18.95	45*	1450	37	1450	101	28.65	75*	2900	55	2900	83	17.43	75*	1450	75*	1450
86.55	33.51	45*	2900	37	2900	113	25.66	75*	2900	75*	2900	86	33.90	75*	2900	75*	2900
99.89	29.03	45*	2900	45*	2900							94	30.76	75*	2900	75*	2900
118.70	24.43	45*	2900	45*	2900							* Consult factory for thermal considerations					
131.56	22.04	45*	2900	45*	2900												

Dodge® motorized Torque-Arm® II screw conveyor drive features

All TA II reducers can become screw conveyor drives with the following accessories

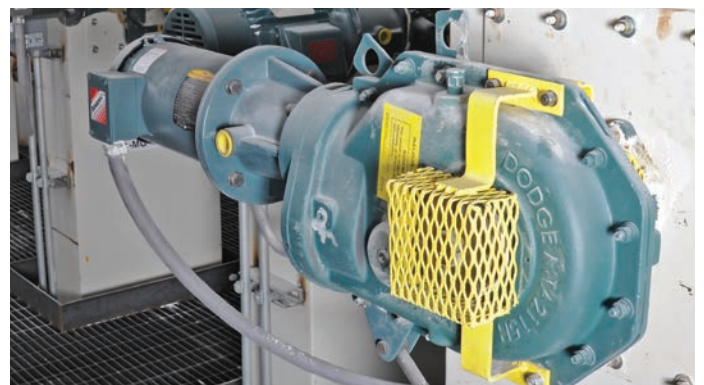
Advanced sealing features

- New advanced heavy duty sealing system improves sealing performance
- -40°F to 300°F (-40°C to +150°C) temperature range
- Excellent low temperature seal operation
- Extends seal service life up to 6 times over standard rubber seals

More information on flyer FL1617

TAII superior backstop design

- Reduced Wear and Friction, Lift-Off style, No Rubbing Parts in Free Direction.
- Operates with Standard and Extreme Pressure (EP) Lubricant (Only one on the market)
- Direction of rotation is field reversible
- No external lubrication required



Dodge® motorized Torque-Arm® II screw conveyor drive features

All MTA II reducers can become screw conveyor drives with the following accessories

CEMA bolt-on adapter

- Double lip seals on both the reducer end and trough end
- Open center for contamination disposal
- Optional Adjustable Waste Packing Adapter Kit, proven sealing option for harsh environments

Screw conveyor drive shafts

- Made from high alloy steel to CEMA dimensions
- Standard three-bolt drilled
- Tapered fit ensures simple installation
- Patent pending locking plate provides mechanical shaft removal



Dodge® motorized Torque-Arm® II safety features

Harsh duty bushing covers

- Covers rotating bushing bolts
- Protects seals from contaminants
- Corrosion resistant
- Available in metal and heavy duty ABS polymer
- Available in totally closed and split /shaft through designs

ATEX Certified – TA II is the only USA shaft mount that is ATEX certified

- ATEX is a European Union ATmosphere EXplosive Directive
- Insures Products Are Safe to Operate in a Hazardous Environment
- I M2: Group 1 Category 2, Safe in Mining Applications Where Dust is Likely to Occur
- II 2 GD c T4: Group II Category 2, Safe for Gas or Dust Environment Surface Temperature of Reducer Not To Exceed T4=135°C (275°F)
- Tamb: Ambient Temperature Between -22°F to 122°F (-30°C to +50°C)



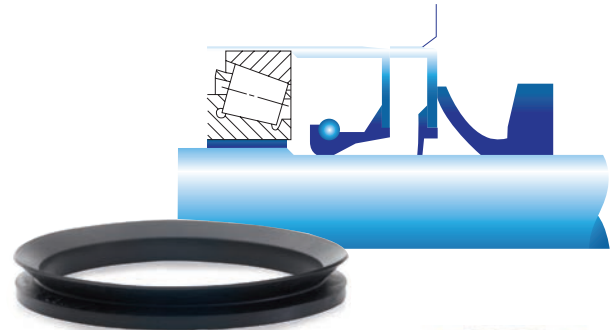
Dodge® motorized Torque-Arm® II harsh duty accessories

Optional premium harsh duty accessories can significantly help extend the service life of the reducer

Harsh duty v-ring seal kit

- Rides on driven shaft and acts as a flinger
- Keeps contaminants from coming in contact with excluder seal
- Easy installation – no tools required
- More resistant to water spray, and mild wash-down applications

More Information, contact Dodge marketing



Hydra-lock dissiccant breathers

- Internal check valve system creates a nearly sealed system
- Integrated nylon standpipe and clear Polycarbonate casing allow for greater chemical compatibility and vibration resistance
- Filter element captures particles at 3 micron absolute

Ideal for...

- Wash-down applications and other high humidity environments
- A higher level of contaminant protection
- Gearboxes in storage

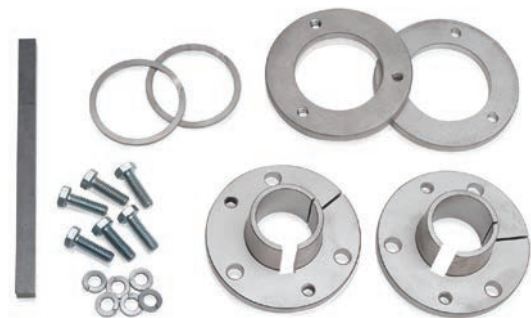
More information on flyer FL1627



TDNC twin taper bushing system

- Thin Dense Nickel Composite coated for maximum corrosion resistance with minimum cost
- TDNC bushings, backing plates, & snap rings
- Corrosion resistant bolts and lock washers

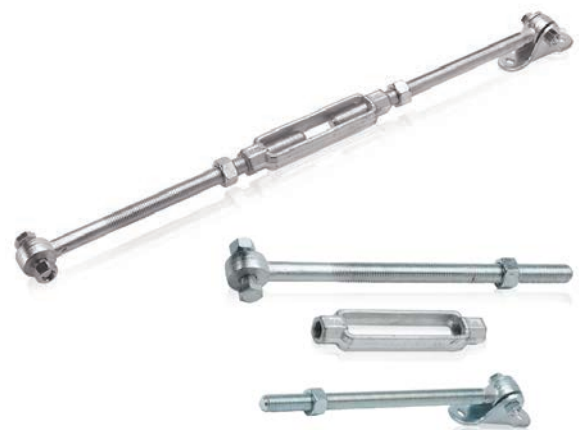
More Information, contact Dodge marketing



Zinc plated tie rods

- ROHS compliant, environmentally friendly chromating process
- Zinc plated turnbuckle, Zinc plated fulcrum
- Two Zinc plated threaded rod extensions
- Zinc plated hardware kit

- Powder coated reducer adapter brackets
More Information, contact Dodge marketing



Metric Torque-Arm II engineering catalog

www.abb.com/mechanicalpowertransmission

Contact:

www.abb.com/mechanicalpowertransmission

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