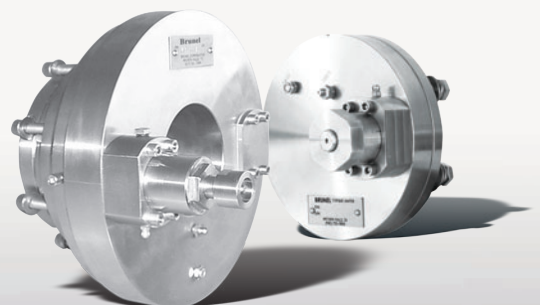


World Leader in Modular Torque Limiters

Brunel Corporation

Fresh Water and Waste Water
Safety Element Torque Limiters

Brunel Safety Element Torque Limiters —
Protecting Industrial Power Transmission Systems
Around the World Since 1971



1304 Twin Oaks Street · Wichita Falls, Texas 76302 · (940) 723-7800 · Fax: (940) 723-7888
E-mail: sales@brunelcorp.com · www.brunelcorp.com

Features & Advantages:

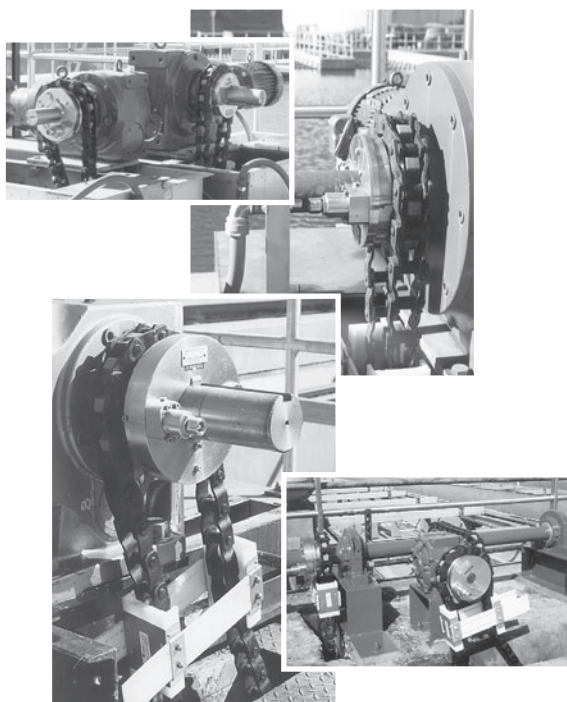
- **Modular Ball Detent/Disc Spring Design**
- **All Major Components 316 Stainless Steel**
- **Five Safety Element Styles Available**
 - 1) EA - Externally Adjustable
 - 2) EAD - Externally Adjustable Disconnectable
 - 3) EAS - Externally Adjustable Short
 - 4) D - Internally Adjustable Disconnectable
 - 5) Standard - Internally Adjustable
- **All Wearing Surfaces D-2 Tool Steel through hardened to Rc 62 min.**
- **Complete Disengagement on Overload**
- **Simple Manual Reset**
- **Multiple "O" Ring Seals**
- **Adapts to All Drive Configurations**
- **Large Torque & Bore Capacity**



Also: Look at
Brunel Corporation's
Power Monitor
Product Line
www.brunelcorp.com



Brunel Safety Element Torque Limiters have been protecting industrial power transmission systems around the world since 1971.



The Waste Water Safety Element "SE" Series Torque Limiters are designed specifically for the outdoor, corrosive "waste water" environment. They are made of 316 stainless steel throughout with the exception of D-2 (Rc 62) tool steel "working parts" in the safety element, "O" ring seals and PTFE bearings. The internal parts are packed with grease and are externally regreaseable. Eight "O" ring seals prevent contaminants from entering the unit while a grease vent allows added grease to escape. Modular construction provides design flexibility and simple maintainability. Safety elements are precision Belleville spring loaded, single ball detent design. A unique over-center mechanism ensures complete and bidirectional disengagement on overload and simple, fast manual re-engagement. Four types of Safety Elements: standard, disconnectable, externally adjustable and externally adjustable disconnectable are available and are interchangeable on the base unit.

Safety Element Torque Limiters completely disengage on overload thus preventing damage and down time to the equipment. When applied on reducer output shafts in rectangular settling tank drive systems, the "SE" Torque Limiter protects the reducer, drive chain, drag chain and flight bars. They can also be applied on screw conveyor drives or other sludge collection systems that have potential for jamming.

Engineering Data

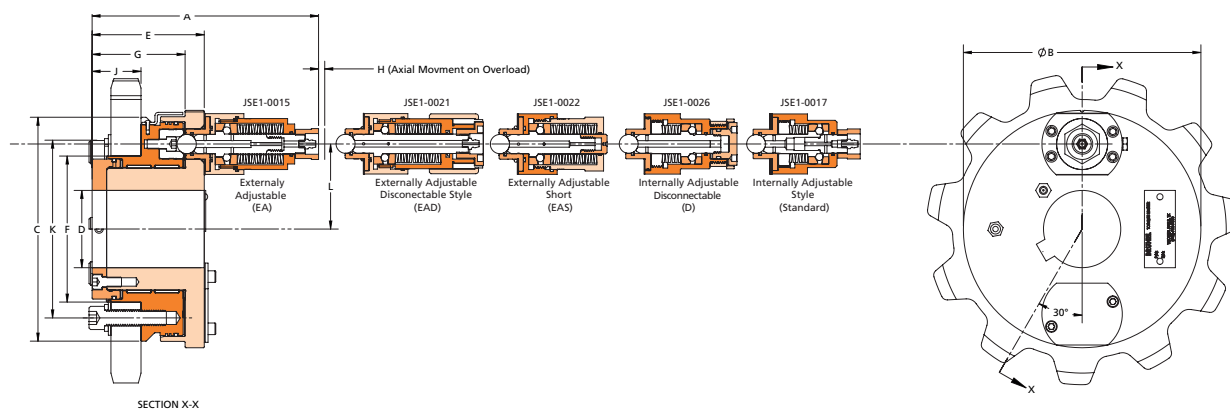
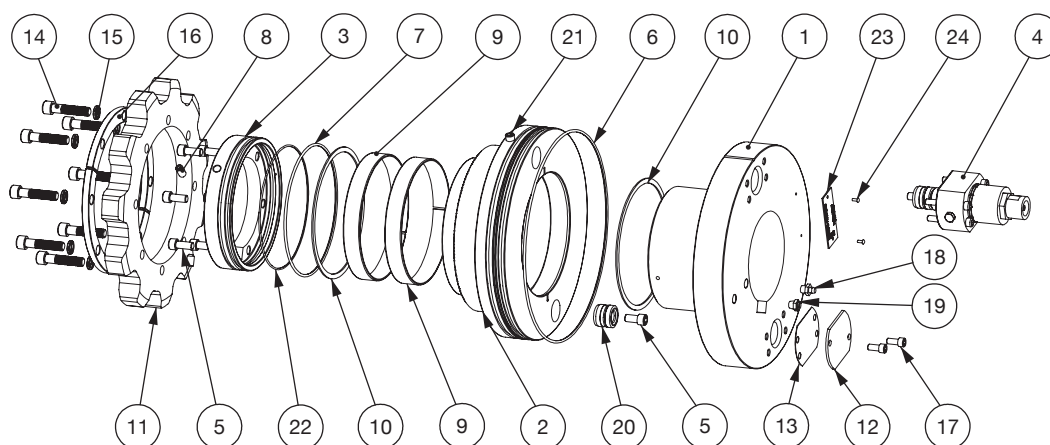


Chart 1

Brunel Part No. Series	Safety Element Qty.	Externally Adjustable Torque Range lb in	Internally Adjustable Torque Range lb in	Safety Element Style	Dimensions in inches												Min H78 Sprocket
					A	B	C	D max.	E	F	G	H	J	K	L	M	
JSE1-0100	1 2	1,604 - 7,356 3,208 - 14,712	1,105 - 9,044 2,210 - 18,086	EA	7.32							.211					Qty 6 3/8 - 16 9 Tooth
				EAD	7.57							.250					
				EAS	6.54	6.10	5.66	1.750	3.62	3.64	3.00	.211	1.58	4.50	1.925		
				D	6.72							.162					
				Standard	6.52							.162					
JSE1-0150	1	2,024 - 9,287	1,395 - 11,415	EA	7.29							.211					Qty 6 1/2 - 13 11 Tooth
				EAD	7.46							.250					
				EAS	6.42	7.00	7.00	2.50	3.50	4.72		.211	1.94	5.75	2.43		
				D	6.60							.162					
				Standard	6.48							.162					
JSE1-0200	1 2	2,291 - 10,510 4,582 - 21,021	1,579 - 12,920 3,157 - 25,840	EA	7.32							.211					Qty 6 1/2 - 13 11 Tooth
				EAD	7.56							.250					
				EAS	6.54	7.68	7.25	2.938	3.62	4.724	3.00	.211	1.58	5.75	2.75		
				D	6.72							.162					
				Standard	6.52							.162					
JSE1-0400	1 2 3 4	3,107 - 14,256 6,214 - 28,512 9,321 - 42,768 12,428 - 57,023	2,141 - 17,523 4,282 - 35,047 6,423 - 52,570 8,564 - 70,093	EA	8.90							.211					Qty 8 3/8 - 16 11 Tooth
				EAD	7.56							.250					
				EAS	8.02	9.75	7.25	3.75	5.10	6.00	3.00	.211	1.58	6.60	3.73		
				D	8.20							.162					
				Standard	8.10							.162					



400 Series Exploded View P/N: JSE1-0401EA

Chart 2

Item	Description	Qty.	Item	Description	Qty.	Item	Description	Qty.
1	Module Carrier Hub	1	9	PTFE Bearing	2	17	Blanking Plate Bolts	2
2	Detent Pocket Plate	1	10	PTFE Thrust ring	2	18	Grease Zerk	1
3	Retaining Plate	1	11	Sprocket	1	19	Grease Relief Valve	1
4	JSE1-0015 EA SE	1	12	Blanking Plate	1	20	JSE1 Detent	1
5	Retaining Plate Bolts	6	13	Blanking Plate Seal	1	21	Alignment Bolt	1
6	O-ring Seal	1	14	Sprocket Bots (SHCS)	8	22	O-ring Seal	1
7	O-ring Seal	1	15	Sprocket Lock Washers	8	23	Name Plate	1
8	Socket Set Screw	2	16	Split Clamping Ring	2	24	Rivets	2

Consult factory for special application

Recommended Specification for Fresh Water and Waste Water Treatment Applications

Torque limiters shall be a ball-detent type which transmits torque through balls retained in detents against adjustable spring pressure.

The design of the torque limiter shall be such that when torque exceeds a pre-set value the balls will leave their seats and roll free to provide complete disengagement of the driving and driven components. The device shall not incorporate friction plates and resetting will be by a simple manual push or blow from a soft hammer with torque setting remaining constant within plus or minus 10% after each disengagement and resetting.

The ball detent, as well as any parts where sliding occurs during disengagement, shall be hardened to a minimum of 62 R/C. The torque limiter shall be weather resistant for outdoor applications with all external exposed components made of 316 stainless steel. These exposed parts will include; hardware, module carrier hub, detent pocket plate, retaining plate, and any other parts directly exposed to the weather or waste water atmosphere. Release torque must be externally adjustable and the torque limiter will be marked with clearly readable graduations to allow for accurate release torque adjustment. Torque limiters will be preset by the manufacturer.

The working safety element components including plunger, detent pocket, flanged bushing, and thrust races will be made of AISI D2 steel and through hardened to Rc 62 minimum. Balls shall be of chrome-alloy steel hardened to a minimum of Rc 60.

Upon overload, the spring loaded plunger of the safety element will move axially at least .162" minimum, which will allow the overload to be detected by the recommended proximity sensor.

Torque limiter models submitted must have been successfully applied in municipal waste water treatment plants for at least five years in order to be considered.

Approved supplier- Brunel Corporation, Wichita Falls, TX

Current Installations

New York City

Department of Environmental Protection

Red Hook W.P.C.P.
Tallman Island W.P.C.P.
Bowery Bay W.P.C.P.
Jamaica W.P.C.P.
Port Richmond W.P.C.P.
26th Ward W.P.C.P.
Hunts Point W.P.C.P.
Coney Island W.P.C.P.
Wards Island W.P.C.P.
Bronx Grit Chamber
Manhattan Grit Chamber
Rockaway W.P.C.P.
Newtown Creek W.P.C.P.
North River W.P.C.P., Manhattan NY
Oakwood Beach W.P.C.P., Staten Island NY
Owls Head Primary Tanks

Water / Waste Water Treatment Plants (Other than NYC Dep)

Bridgeport W.P.C.P., Bridgeport CT
New Bedford W.P.C.F., New Bedford MA
North Texas Municipal, Wylie TX
Exeter Township W.W.T.P., Birdsboro PA
Fremont WTP, Fremont OH
Chelmsford W.P.C.P., Chelmsford Ontario, Canada
Mattabasset District W.P.C.F., Cromwell CT
Norwalk CT
Hamilton Ontario, Canada
Calgary Alberta, Canada
Deer Valley W.P.C.P., Phoenix AZ
Nashua W.W.T.P., Nashua, NH
Daly City W.W.T.P., Daly City, CA
Metropolitan Water District, LaVerne, CA
Water Reclamation - Bayview Park, Toledo, OH
Corbalis W.W.T.P., VA
Point of the Mountain W.T.P., Draper, UT

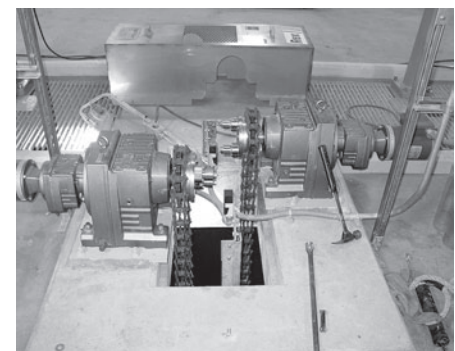
Loudon W.T.P., Loudon, TN
Cartersville W.T.P., Cartersville, GA
Hyperion Full Secondary, Los Angeles, CA
Wyndotte W.P.C.P., Detroit MI
Lawrenceburg Indiana W.P.C.P.
Ulu Pandan, Singapore Malaysia
Astatula State Prison W.P.C.P., Astatula FL
Kennewick WA - W.P.C.P.
Bridgeport W.P.C.P., Phase II
Folsom CA
New Haven W.P.C.P.
Carson California W.P.C.P.
Cincinnati - Little Miami
Baton Rouge Central W.W.T.P., Baton Rouge LA
Patapsco W.P.C.P., Baltimore MD
Oceanside W.P.C.P., San Francisco CA
Blue Plains W.P.C.P., Washington D.C.
Philadelphia Southwest W.W.T.P.
Alcosan - Pittsburgh
Yonkers W.P.C.P., Westchester County NY
Cedar Creek W.P.C.P., Nassau County Wantagh NY
Mamaroneck W.P.C.P., Westchester County NY
Camden, NJ
Puerto Rico - Puerto Nuevo
Sacramento, CA
F. E. Weymouth - (Southern California Water District)
Nottingham Water Treatment Plant, Cleveland OH

Original Equipment Manufacturers (OEMs)

Siemens Water Technologies
Polychem Systems (a Division of Brentwood Ind.)
Allied-Locke Industries
Hitachi Maxco
Amwell (a Division of McNish Corp.)



*F.E. Weymouth Filtration Plant
Metro Water District of Southern CA*



*Nottingham Water Treatment Plant
Cleveland OH*



Red Hook WPCP - NYC DEP

For catalogs and/or technical assistance:

1304 Twin Oaks Street
Wichita Falls, Texas 76302
Phone: (940) 723-7800
Fax: (940) 723-7888
E-mail: sales@brunelcorp.com
Website: brunelcorp.com