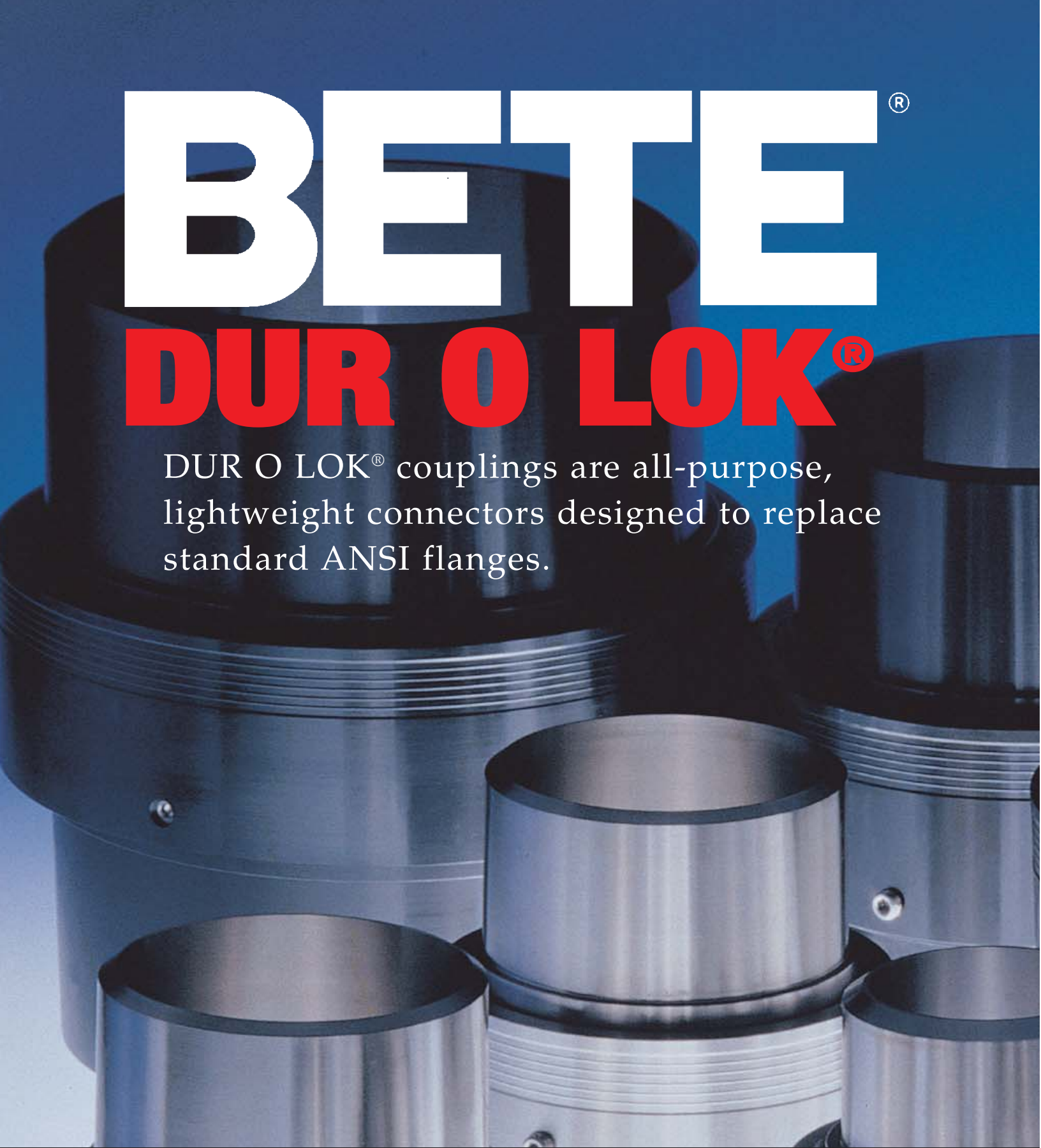
BETE®

DUR O LOK®

DUR O LOK® couplings are all-purpose, lightweight connectors designed to replace standard ANSI flanges.



The **DUR O LOK®** coupling meets the requirements of the following codes:
ASME Boiler and Pressure Vessel Code, Section VIII
ASME B31.1, Code for Pressure Piping
ASME B31.3, Code for Process Piping

BETE QUALITY ISO 9001:2000 MANAGEMENT SYSTEM

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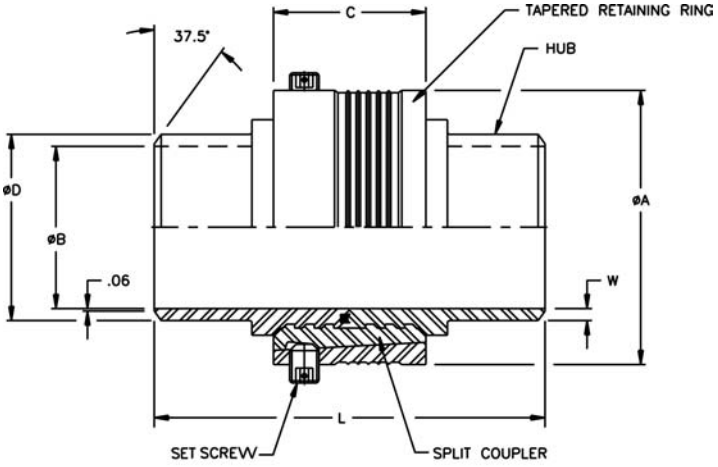
DUR O LOK®

Compact Pipe Coupling



DUR O LOK® Materials
- Carbon steel
- Stainless steel - 304, 316, 321
- Other materials available
- Material traceability available

DUR O LOK® Quality
- Designed to ASME B&PV Code Section VIII, ASME B31.1 and ASME B31.3
- Quality assurance to ISO 9001:2000



DUR O LOK® Pipe Couplings - *Dimensions (inches), Ratings (PSI), and Assumed Moments (ft-lb)*

Data provided below is for the o-ring design. Similar information is available upon request for the high temperature gasket seal design.

Pipe Size	Pipe Sched.	"D" Pipe O.D.	"B" Pipe I.D.	"A" Overall Diameter	"C" Tapered Ring length	"L" Overall Length	"W" Nominal Wall	Approx. Weight (lbs.)	Pressure Rating (PSI)* Carbon Steel	304 Stain. Steel	Assumed Moment (ft-lb)
1	40	1.32	1.05	2.50	1.47	3.50	0.14	1.99	1475	1229	33
1	80	1.32	0.96	2.50	1.47	3.50	0.18	2.10	2850	2374	33
1 1/4	40	1.66	1.38	2.85	1.47	3.50	0.14	2.41	1550	1291	59
1 1/4	80	1.66	1.28	2.85	1.47	3.50	0.19	2.61	2800	2332	59
1 1/4	160	1.66	1.16	2.85	1.47	3.50	0.25	2.81	4650	3873	59
1 1/2	40	1.90	1.61	3.13	2.00	4.00	0.15	3.71	2250	1874	82
1 1/2	80	1.90	1.50	3.13	2.00	4.00	0.20	4.00	3850	3207	82
1 1/2	160	1.90	1.34	3.13	2.00	4.00	0.28	4.38	5900	4915	82
1 1/2	xxs	1.90	1.10	3.13	2.00	4.00	0.40	4.82	8100	6747	82
2	40	2.38	2.07	3.55	2.00	5.00	0.16	4.70	1850	1541	140
2	80	2.38	1.94	3.55	2.00	5.00	0.22	5.25	3350	2791	140
2	160	2.38	1.69	3.55	2.00	5.00	0.35	6.19	5600	4665	140
2 1/2	40	2.88	2.47	4.21	2.00	6.00	0.21	7.16	2100	1749	266
2 1/2	80	2.88	2.32	4.21	2.00	6.00	0.28	8.10	3500	2916	266
2 1/2	160	2.88	2.13	4.21	2.00	6.00	0.38	9.19	4700	3915	266
3	10	3.50	3.26	4.95	2.00	6.50	0.12	8.09	350	292	431
3	40	3.50	3.07	4.95	2.00	6.50	0.22	9.81	1600	1333	431
3	80	3.50	2.90	4.95	2.00	6.50	0.30	11.20	2900	2416	431
3	160	3.50	2.62	4.95	2.00	6.50	0.44	13.23	3900	3249	431
3 1/2	40	4.00	3.55	5.45	2.00	7.00	0.23	11.75	1650	1374	599
3 1/2	80	4.00	3.36	5.45	2.00	7.00	0.32	13.64	2850	2374	599
4	10	4.50	4.26	5.95	2.00	7.50	0.12	10.53	325	271	804
4	40	4.50	4.03	5.95	2.00	7.50	0.24	13.70	1550	1291	804
4	80	4.50	3.83	5.95	2.00	7.50	0.34	16.21	2400	1999	804
4	120	4.50	3.62	5.95	2.00	7.50	0.44	18.55	2700	2249	804
4	160	4.50	3.44	5.95	2.00	7.50	0.53	20.54	2700	2249	804
5	40	5.56	5.05	7.35	3.10	8.50	0.26	26.27	1750	1458	1363
5	80	5.56	4.81	7.35	3.10	8.50	0.37	30.45	2450	2041	1363
6	40	6.63	6.07	8.47	3.10	9.50	0.28	34.25	1600	1333	2124
6	80	6.63	5.76	8.47	3.10	9.50	0.43	41.51	2350	1958	2124
8	40	8.63	7.98	10.65	3.10	9.50	0.32	49.72	1350	1125	4202
8	80	8.63	7.63	10.65	3.10	9.50	0.50	60.84	1825	1520	4202

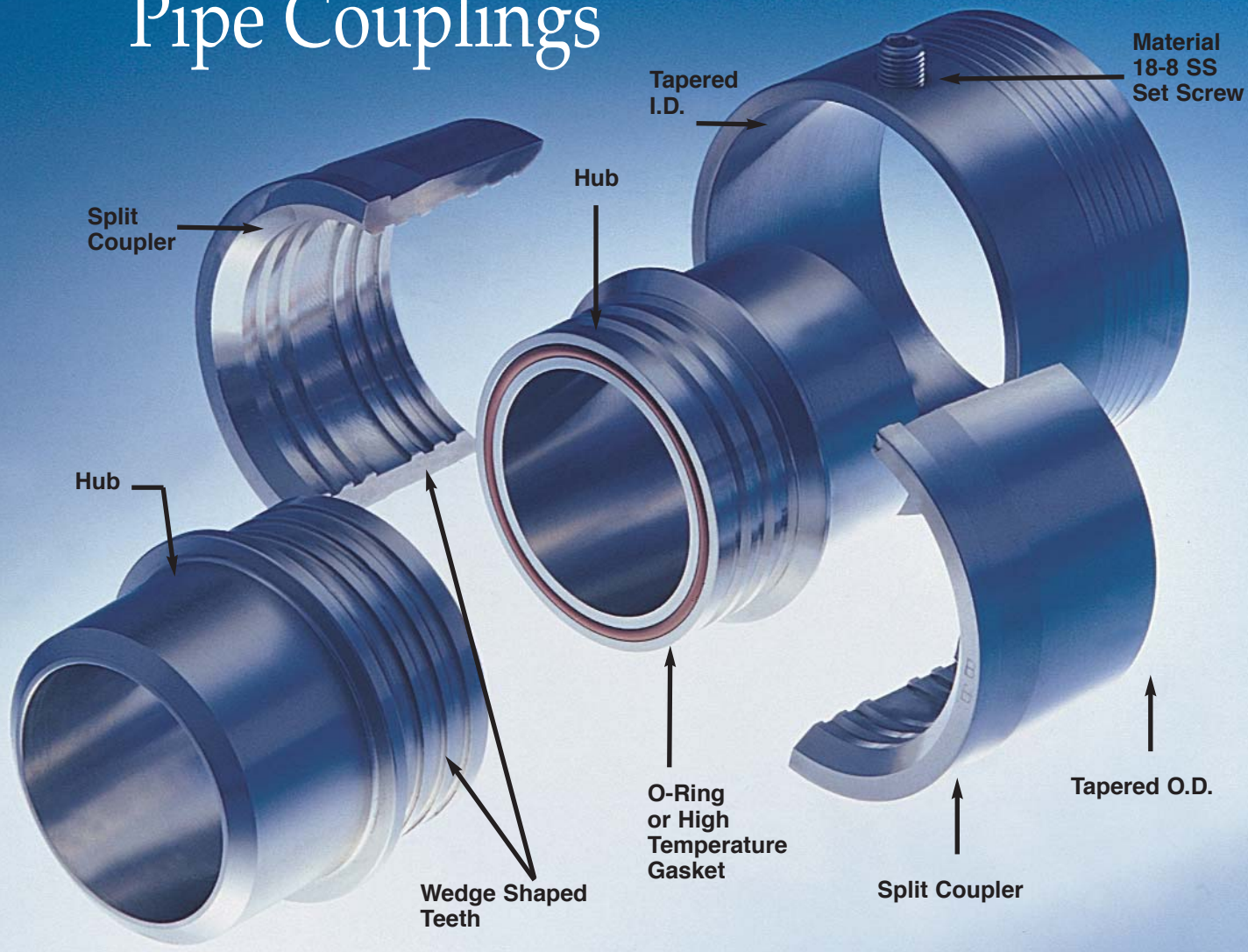
*DUR O LOK® Pipe Couplings - Note: Values for dimensions and weights are nominal; please contact Customer Service for exact values. Maximum Temperature: 400°F (204°C) with Viton o-ring, 450°F (232°C) with silicone rubber o-ring. Please note: Grafoil® limit in air or oxygen 850°F (454°C).

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Save Time and Money with Fast, Simple, Lightweight DUR O LOK® Pipe Couplings



The DUR O LOK® wedge system

The heart of the DUR O LOK® design is the system of wedge-shaped, circumferential teeth located on the outside diameter of the hubs and on the inside diameter of the mating split coupler. The wedging action of the teeth compresses the gasket and brings the hub ends into contact with each other. The outside diameter of the split coupler is tapered. A ring with a tapered inside diameter slides over the split coupler ring segments, forcing them together and holding them firmly in place. The tapered retaining ring is secured with a set screw. The entire connection process can be accomplished in less than a minute, without wrenches.



Patented and patents pending

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BETE

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DUR O LOK®

The Light Weight, Threadless, Boltless Coupling Alternative

The performance superiority, space, and weight provided by DUR O LOK® couplings make them the preferred choice in many pipe-connecting applications.

DUR O LOK® couplings are all-purpose, lightweight connectors designed to replace standard ANSI flanges. The design of DUR O LOK® couplings ensures reliable operation over a wide range of temperatures. DUR O LOK® couplings have been used in refinery applications for many years and are specified by UOP for use in CCR™ Platforming™, Oleflex™ and Sorbex™ processing units, as well as in Optimix™ FCC feed nozzles.

DUR O LOK® pipe couplings are designed to reduce maintenance, reduce materials costs, and reduce space requirements for pipe racks.

Features:

- **The DUR O LOK® coupling meets the requirements of the following codes:**
  --ASME Boiler and Pressure Vessel Code, Section VIII
  --ASME B31.1, Code for Pressure Piping
  --ASME B31.3, Code for Process Piping
- **Compact - length and outside diameter reduced by 30% - 50%,** compared to flanges. Allows double the number of pipes per rack. Provides improved external flow distribution for immersed couplings. Reduces shadowing for couplings used in process vessels.
- **Light weight - weight reduced by 60% - 90%,** compared to flanges
- **Simple - Number of parts reduced by 55% - 75%** per connection, compared to flanges.
- **Fast - Save up to 10-15 minutes** to make or break each connection.
- **Non-restrictive - Full port inside diameter** eliminates pressure drop and allows "pigging".
- **Smooth interior bore - Minimizes flow disturbances.** Eliminates attrition in catalyst and other solids conveying applications.
- **Boltless and threadless - Only safety set screws required.** No torque measurements required. No bolt holes to align. No need to tighten connections after thermal cycling. Simplifies painting and insulating.
- **Self-energized seal** - Sealing force increases with pressure. Less chance of leaks.
- **Thermally stable** - Design minimizes thermal expansion effects on sealing. Tolerates very rapid changes of external or internal temperatures.
- **No interference fits or metal-to-metal sealing -** Higher reliability. Less susceptible to damage.

CCR℠ Platforming® process, which produces high-octane gasoline or petrochemical precursors; **C_3 Oleflex® process**, which produces polymer-grade propylene from propane feedstock; **C_4 Oleflex® processes**, which separate, convert and upgrade C_4 olefin streams to produce MTBE, acetylene-free crude butadiene, butene-1, isobutylene, and completely saturated LPG; **Sorbex® processes**, which separate components from mixtures by liquid-phase adsorption; **Parex® process**, which recovers high-purity para-xylene from streams containing mixed xylene isomers and other aromatic and non-aromatic impurities; **Molex® process**, which separates paraffins from branched chain and cyclic hydrocarbons; **MX-Sorbex® process,** which recovers meta-xylene from streams containing mixed A8 isomers.

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Heavy Duty Couplings Dor



DUR O LOK®/ Flange - Weight and Dimension Comparison

DUR O LOK®					Weld Neck Flanges			
Pipe Size	Pipe Schedule	Overall Diameter (in.)	Overall Length (in.)	Approx Weight (lb.)	Flange Class	Flange OD (in.)	Flange Assembly Length (in.)	Flange Assembly Weight (lb.)
1	80	2.50	3.50	1.99	2500	6.25	7.0	26.6
1.25	80	2.85	3.50	2.61	600	5.25	5.2	13.1
1.5	XXS	3.13	4.00	4.82	2500	8	8.8	57.0
2	80	3.55	5.00	5.25	2500	9.25	10.0	83.3
2.5	160	4.21	6.00	9.19	600	7.5	6.2	38.0
3	80	4.95	6.50	11.20	1500	10.5	9.2	102.5
3.5	80	5.45	7.00	13.64	600	9	6.8	63.2
4	160	5.95	7.50	20.54	2500	14	15.0	301.2
6	80	8.47	9.50	41.51	600	14	9.2	173.5
8	80	10.65	9.50	60.84	600	16.5	10.5	259.1

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Don't Have to Weigh a Ton



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