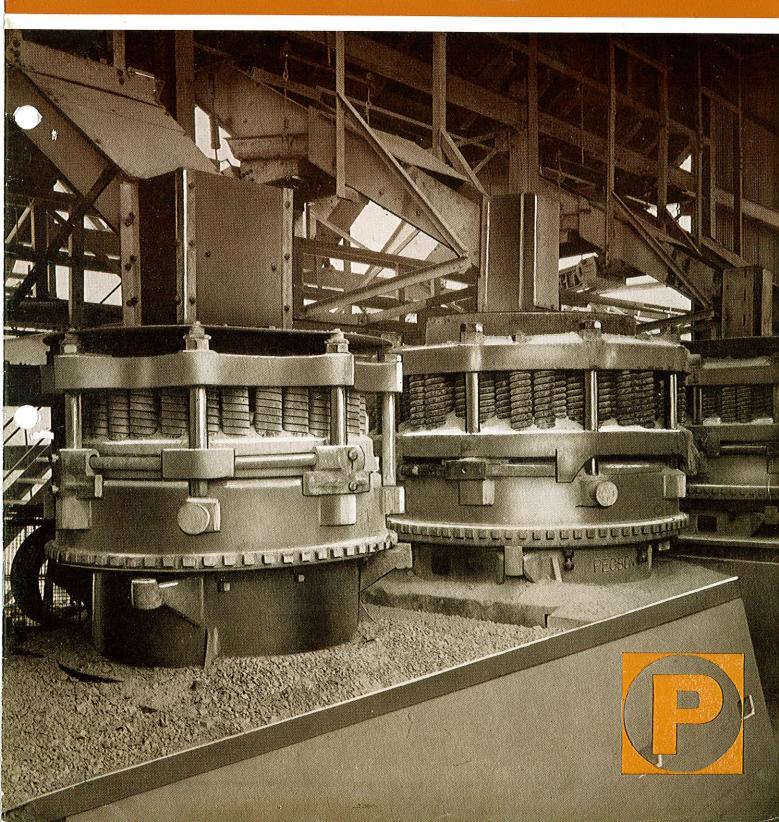


GYRASPHERE CRUSHERS



PEGSON

TELSMITH

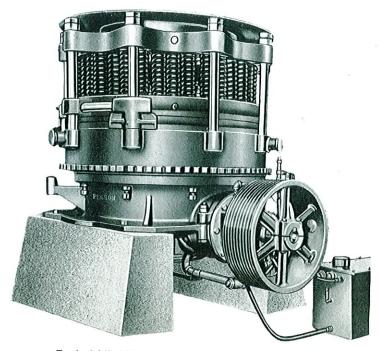
GYRASPHERE

CRUSHERS

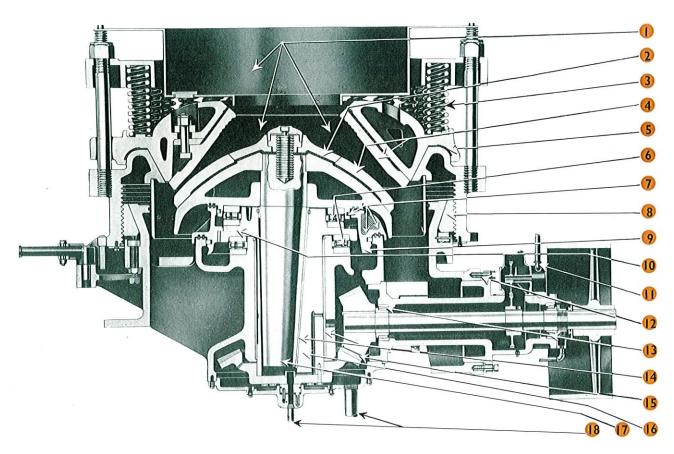
Selection of a secondary crusher for the coarse or fine crushing of aggregates or ores requires many important considerations. To meet today's strict specifications the machine must be capable of producing a uniform product of the best cubical shape and size; it must be modern and efficient; easy to install, maintain, feed and operate; turn out finished material in quality and quantity; and keep production costs to the lowest possible figure. In all these respects, Pegson-Telsmith Gyrasphere Crushers have proved their superiority—on all kinds of crushing jobs all over the world.

The eleven types of Pegson-Telsmith Gyraspheres available cover almost every secondary crushing requirement. The

includes 24", 36", 48", and 66" machines, each available as a Style S or FC model, and sizes 36"7S, 48"9S and 66"14S which have larger feed openings for intermediate duties. The Style S Gyrasphere is designed for coarse or medium crushing service and the FC for heavy duty fine crushing at discharge openings smaller than those usually recommended for the Style S. Construction of the two styles is the same in many respects and they use many of the same wearing parts. Their design, based on long experience of crusher manufacture and applications, embodies many exclusive features and advantages. These are indicated in the following pages with the range of Gyrasphere openings and capacities detailed on page 10.



Typical 24", 36" or 48" Style S. Gyrasphere Crusher.

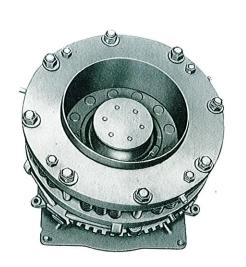


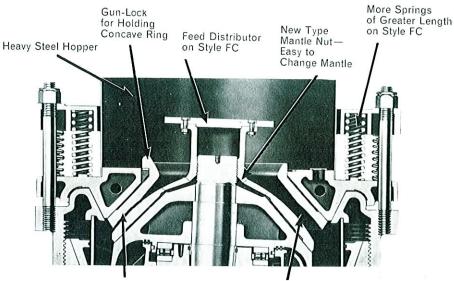
- 1. Heavy Steel Hopper and Large, Unobstructed Feed Openings.—Facilitate handling of large sized feed or slabby aggregate without bridging. A feeder or distributor plate is not required on the Style S Gyrasphere where the feed is usually large sized aggregate.
- Spherical Shaped Crushing Head.—Gyrating at high speed with a long stroke assures maximum capacity and a uniform cubical product.
- 3. Spring Relief.—Heavy springs, adjustable for compression, allow the concave bowl to tilt automatically, relieving excessive pressures due to packing action of accumulated fines or to pass tramp iron. No adjustment is required after relief takes place.
- 4. Manganese Steel Crushing Members.—Wear evenly and maintain their spherical shape throughout their entire life.
- 5. Spring Retained Concave Bowl.—Allows finer adjustment of the discharge opening. Packing is instantly and automatically relieved. No adjustment is required after relief takes place.
- 6. Heavy Duty Roller Bearings.—Support the head on the eccentric and support the eccentric on the main frame, thus carrying the crushing pressures directly into the heavy main frame.
- 7. Piston Rings and Flexible Labyrinth Seals.—Most effective kind of seals to prevent entrance of grit or water and loss of lubricant.
- 8. Discharge Opening Adjustment Mechanism.— Convenient, easy to operate and sealed to prevent sticking. As the springs are located between the concave bowl and the frame adjustment member, crushing shocks do not affect adjusting mechanism.

- 9. The Pegson-Telsmith Patented Rotary Seal.—Converts reciprocating or gyratory motion into rotary motion and allows perfect protection of all inside wearing parts by piston ring and labyrinth seals.
- 10. The Exclusive Pegson-Telsmith "Cam and Lever" Crushing Action.—A cam on the upper part of the eccentric between the main frame and the bottom of the crushing head works in unison with and supplements the eccentric and lever shaft. This cam and the heavy duty roller bearings do a large part of the crushing, thus reducing the strain on the shaft, the eccentric and their bearings.
- 11. Self-Priming Internal Gear Pump.—Driven by cut spur gears enclosed and running in oil, forces oil under pressure to all moving parts.
- 12. Countershaft Box.—Removable as a complete unit and is protected by a renewable shield.
- 13. Heavy Countershaft.—Equipped with tapered roller bearings. No outboard bearing is required.
- 14. Large Diameter, Long Sleeve Eccentric Bearings.— Made of machined lead-bronze and run in oil bath to ensure maximum bearing life.
- 15. Cut Steel Drive Gears.—Run in oil bath, ensure smooth, quiet operation and long life.
- 16. Large, Heavy Eccentric.—Properly counter-weighted, ensures smooth operation and long life.
- 17. Large Diameter, Heavy Duty Main Shaft.—Always properly aligned and has no oil holes to weaken it.
- 18. The Main Oil Supply.—Under regulated pressure, lubricates the shaft and eccentric bearings, the main drive gears, the countershaft bearings and the oil pump drive gears, then returns to large capacity oil tank, where it is filtered and cooled.

STYLE FC — 36" and 48" Gyraspheres





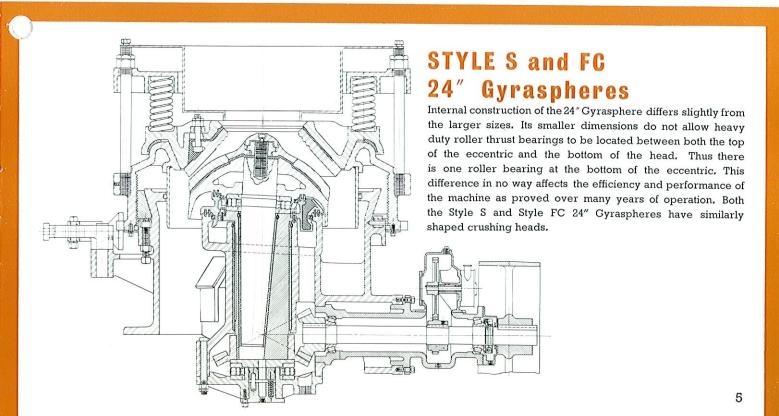


Longer Parallel Crushing Zone — Better Particle Shape – More Uniform Product

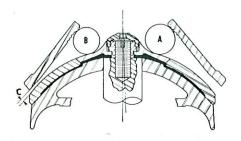
Wide Discharge Opening - Rapid Discharge - Longer Manganese Life

The Style FC Fine Crushing Gyrasphere is equipped with a distributor plate which gyrates with the crushing head and evenly distributes the feed around the entire circumference of the feed opening. This action results in a more uniform crushed product. The Style FC also incorporates a different shaped crushing head and concave ring, the modified angle between these members being the most effective for fine crushing whilst the longer, parallel crushing zone through

which the material passes gives a finer, more even-shaped product. A special mantle nut and gun-lock type concave ring make the mantle and ring automatically self-tightening and simplify changing of the parts. Additionally, the Style FC Gyrasphere is fitted with longer and a larger number of springs than the Style S machine to compensate for the greater crushing pressures encountered in fine crushing.

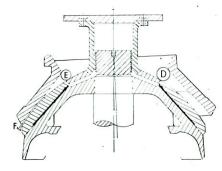


OPENINGS & CAPACITIES



STYLE S

The diagrams show the open and closed side feed openings and the closed side discharge opening of (left) the Style S Coarse Crushing Gyrasphere and (right) the Style FC Fine Crushing Gyrasphere. The closed side discharge opening determines the size of the finished product. The FC diagram also shows the feed distributor plate.



STYLE FC

STYLE 'S' COARSE CRUSHING

		FEED C	PENING	Recom'nded Minimum		Ca	paci	ies a	CAPA re gi	CITY	PER n lon	HOU g ton	IR A	r VAI	of 2,	S DIS 240 1	CHAI	RGE nd sh	OPEN ort to	VING	S (NO Ame	TE 2 ican)	of 2,	000 1	bs.	
Size	Type	Open Side	Closed Side	Discharge Opening 'C'	1/4	"	38	"	1/2	"	5 8	"	34	"	7 8	"	1	"	1;	ł"	1	<u>"</u>	2	"	2	1 "
Gyrasphere	Bowl	(Note 1)	'В'		long tons	sh't tons	long tons	sh't tons	long tons	sh't	long tons	sh't tons	long tons	sh't	long tons	sh't	long tons	sh't tons	long tons	sh't	long	sh't tons	long tons	sh't tons	long	sh'
24S	Coarse	31/	3″	3 "	13	14	16	18	20	22	25	27	29	32	32	36	37	41								
243	Medium	21/	17"	1 "	to 15	to 17	to 20	to 22	to 25	to 27	to 30	33	10 34	38	39	to 44	to 44	to 49								
2458	Coarse	45"	4"	1 "					20 to 25	22 to 27	25 to 30	27 to 33	29 to 34	32 to 38	32 to 39	36 to 44	37 to 44	41 to 49	41 to 48	46 to 54						
36S	Coarse Medium	5¼" 4½"	45" 33"	½" . 3″			28 to 34	31 to 38	36 to 45	40 to 50	45 to 54	50 to 60	54 to 68	60 to 75	61 to 74	68 to 83	64 to 79	72 to 88	71 to 85	80 to 95	76 to 94	85 to 105				
367S	Coarse	7"	6½"	3 "									54 to 68	60 to 75	61 to 74	68 to 83	64 to 79	72 to 88	71 to 85	80 to 95	76 to 94	85 to 105	80 to 98	90 to 110		
48S	Coarse	71"	63".	3"					63	70	85	95	98	110	112	125	120	135	138	155	147	165	152	170		
403	Medium	51/2"	41/11	1/2"					to 94	to 105	to 116	to 130	to 134	150	to 147	165	to 156	to 175	170	to 190	179	200	to 188	210		
489S	Coarse	10"	9″	1"													120 to 156	135 to 175	138 to 170	155 to 190	147 to 179	165 to 200	152 to 188	170 to 210	156 to 192	to
66S	Coarse	11"	10"	1"									161	180	188	210	214	240	241	270	282	315	313	350	344	385
663	Medium	9″	8"	3"									196	to 220	232	to 260	to 259	to 290	to 304	to 340	to 344	to 385	to 380	to 425	to 420	to 470
6614S	Coarse	15"	14"	11/2"															241 to 304	to	282 to 344	to	to	to	to	to

STYLE 'FC' FINE CRUSHING

19		FEED OPENING		Recom'nded Minimum															
Size	Type	Open Side	Closed Side	Discharge Opening 'F'	ł,	~	78	"	ł		3	"	1/2	*	5	"		3."	
Gyrasphere	Bowl	(Note 1)	,E	(Note 3)	long tons	short tons	long tons	short tons	long tons	short tons	long tons	short	long tons	short	long tons	short tons	long tons	short	
24FC	Coarse Medium Fine	2½" 1¾" 1¼"	1 ½ ″ 1 ½ ″ ½ ″	14" 16"	4 to 6	5 to 7	6 to 8	7 to 9	8 to 10	9 to 11	12 to 13	13 to 15	16 to 20	18 to 22					
36FC	Coarse Medium Fine	3" 2" 17"	2" 11" 2"	18" 1" 1" 18"			16 to 20	18 to 22	25 to 30	27 to 33	32 to 39	36 to 44	40 to 49	45 to 55	48 to 59	54 to 66	54 to 68	60 to 75	
48FC	Coarse Medium Fine	4" 3" 2"	27″ 17″ 12″	3" 5" 15"					40 to 49	45 to 55	60 to 73	67 to 82	80 to 98	90 to 110	100 to 122	112 to 137	120 to 147	135 to 165	
66FC	Coarse Medium	5}" 4}"	4" 2½"	½" 3"		,			Y	f =	107 to 137	120 to 154	140 to 172	157 to 192	,169 to 181	189 to 231	196 to 241	220 to 270	

NOTE 1—The feed for these Crushers should pass through a clear square screen opening about $\frac{1}{2}$ " smaller than the size of the maximum feed opening. The feed should contain a minimum of material smaller than the size of the discharge opening.

NOTE 2—All capacities are based on material weighing loose about 100 lbs. per cubic foot and having a specific gravity of 2.6. Wet, sticky material will tend to reduce the capacities especially at close discharge openings. On the Style 'S' Gyrasphere the capacities apply to open circuit crushing, i.e. one pass through the machine; on the Style 'FC' Gyrasphere they apply to closed circuit crushing, the quantities being the net tons per hour that pass through a clear square screen opening of the same size as the Gyrasphere closed side discharge opening. No crusher when set to a given discharge opening will make a product all of which will pass a screening opening of the same dimensions as the discharge opening; the amount of oversize will vary with the character of the rock or ore. For close discharge openings, undersize material should be removed from the feed to eliminate packing and excessive wear.

NOTE 3—The discharge openings shown are the recommended minimum settings. For finer openings, consult Pegson Limited.



SPECIFICATIONS

MAIN FRAME MEMBERS.—Annealed cast steel.

CRUSHING HEAD.—Annealed cast steel.

MAIN SHAFT.—Alloy steel quenched and drawn, turned and ground.

COUNTERSHAFT.—Alloy steel turned and ground.

HEAD SUPPORT THRUST BEARINGS.—Cylindrical roller bearings with tool steel roller and races.

COUNTERSHAFT ROLLER BEARINGS.—Tapered roller bearings.

ECCENTRIC BEARINGS.—Lead-bronze sleeves.

MANTLE AND CONCAVE BOWL.-Manganese steel.

ECCENTRIC.-Meehanite.

MAIN DRIVE GEARS .- Steel with cut teeth.

COUNTERSHAFT BOX .- Cast iron.

OIL PUMP.—Internal gear, self-priming type, driven by cut spur gears, heat-treated, all enclosed and running in oil.

On the 66'' Gyraspheres the Oil Pump is a self-contained unit driven by a separate electric motor.

OIL TANK.—Steel plate with removable cover, equipped with baffle plates, replaceable filter bags, oil level gauge and drain plug.

DRIVE PULLEY.—Cast iron, flywheel type, with split hub and solid rim.

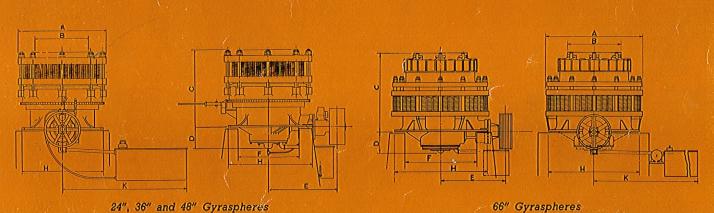
SPRINGS.—Special steel, heat-treated.

Styles 'S' and 'FC' in the same size of Gyrasphere use many of the same wearing parts. For instance, both use the same roller thrust bearings, the same lead-bronze eccentric bearings, piston ring and labyrinth seals, gears, countershaft, oil pump, eccentric and rotary seal ring. The manganese wearing parts are not the same.

Number and Style of Gyrasphere	24S	245S	24FC	368	36FC	367S	48S	48FC	489S	663	66FC	6614S
Power required, H.P. (Note 1) Size of pulley, dia. × face, inches Speed of pulley, R.P. M. Net weight, lbs. approx. Shipping weight, lbs. approx. Cubic contents, cu. ft. Code Word	30 24 × 10 728 9800 10000 160 Yacht	30 24 × 10 725 10000 10200 160 Yak	38 24 × 10 728 10000 10200 160 Yearning	70 28 × 12 600 22900 23500 300 Yaud	80 28 × 12 600 24200 24700 300 Yuga	80 28 × 12 600 24200 24700 300 Yam	100 36 × 14 525 42000 42700 600 Yaupon	125—150 36× 14 525 44300 45000 600 Yule	125—150 36 × 14 525 44300 45000 600 Yawl	200—250 40 × 15 500 93250 .94400 1500 Yarn		200—300 40 × 18 500 95500 96700 1500 Yap

Note 1. The horsepower required varies with the size of finished product, the capacity and the hardness of the rock.

Wet sticky materials, excessive fines in feed and close discharge openings will tend to increase the horse'power requirements.



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	1													
	1.6													

				-								
Number and Style of Gyrasphere	248	246S	24FC	368	36FC	367S	48S	48FC	489S	66S	66FC	6614S
Dimension A, inches Dimension B, Dimension C, Dimension D, Dimension E, Dimension F, Dimension H, Dimension K,	50 ½ 26 ½ 49 ½ 11 42 35 47 77	80½ 26¾ 49½ 111 42 35 47	\$0\frac{1}{2} 26\frac{3}{4} 49\frac{1}{2} 11, 42, 36, 47, 77	67½ 445 598 1581 524 47 62½ 105	67½ 445 595 187 62½ 47 62½ 105	67½ 4455 5987 1656 524 47 62½ 105	863 554 67 183 634 61 81	861 551 67 183 631 61 81	863 554 67 183 634 61 81	122 635 94½ 22½ 75¾ 85 1093 168	122 635 94½ 22½ 763 85 1095 168	122 63 \$ 94 \frac{1}{2} 22 \frac{1}{2} 75 \frac{1}{4} 85 109 \$ 168

All dimensions are subject to confirmation