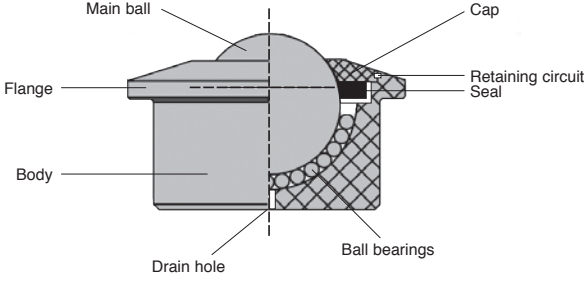
Load carrying ball transfer units

Technical information

Ball transfer units are multidirectional handling systems used in applications in many diverse industrial sectors in order to move heavy and bulky loads with reduced effort.
Their main applications are packaging lines, machines for machining, bending or stamping sheet metal or conveyors, but many other applications are possible.
The load-bearing balls consist of a metal or plastic body, in which is placed a main ball, supported by other smaller balls to eliminate friction.



Stamped sheet metal ball transfer units are preferred for light load applications.
They allow good fluid movement of the load at a reasonable final cost.
Ball transfer units with machined housings are used for heavy loads or where there is the risk of collisions.

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	Max load (kg)	% load friction	Speed (m/sec)	Load shocks	Difficult conditions	Orientation	Omni-directional
Range BPHR	335	2	1,5	✔✔✔✔✔			✔✔✔
Range BPH	600	2	1,5	✔✔✔✔	Options 'SS'		✔✔✔
Range BPL	600	3	1	✔✔✔	Options 'SS'		✔✔✔
Range BPPE	20	3	1	✔			✔✔✔

Load

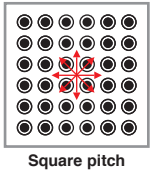
The weight of the article to be moved should be divided by 3, this gives the maximum weight that any single ball will carry. If a greater positioning accuracy is required then this coefficient of 3 can be increased. The condition and surface hardness of the article to be moved should also be taken into account to avoid being marked by the balls.

$$\text{Load C} > \frac{\text{load weight}}{3}$$

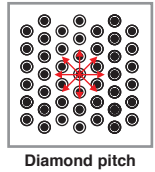
Spacing of ball transfer units

The pitch of the ball transfer units is determined by dividing the shortest dimension of the article to be moved by 3.5. This ensures that at least 3 ball transfer units will be in contact with article along its shortest dimension at any time.

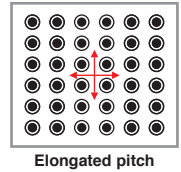
$$\text{Spacing} = \frac{\text{shortest dimension}}{3{,}5}$$



Square pitch



Diamond pitch



Elongated pitch