
MECHANICAL VS. HYDRAULIC

MECHANICAL LIFTERS

HYDRAULIC LIFTERS

APPLICATION

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| <ul style="list-style-type: none"> • Suitable on small presses and dies. • More cost effective. • Heavy dies may require filling multiple t-slots • Doesn't require pump. | <ul style="list-style-type: none"> • Especially suitable on large presses & heavy dies. • Higher investment required. • Very high lift capacity per t-slot. • Pump with overload circuit is required. |
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PRODUCT FEATURES

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| <ul style="list-style-type: none"> • Each ball, or roller is support by spring washers. • Constant load on die. • Requires approximately 30% more force than published to fully compress. | <ul style="list-style-type: none"> • The balls or rollers are either supported by separate single-acting pistons or a bank of pistons. • Lifting force released. |
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INSTALLATION / NOTES

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| <ul style="list-style-type: none"> • Inserts can be easily installed into machined holes. • Rollblocks can be easily installed in a new or existing t-slot. • Rollblocks can not be removed after die change. • Can be used with some Hilma mechanical clamps, with proper selection. • High temp available - 446°F (230°C). Moderate lift capacity to 60% of published. | <ul style="list-style-type: none"> • Rollblocks can be easily installed in new or existing t-slots, with hydraulic lines and pump. • Removable after die change if needed, for use in other presses or in heated applications. • May be used on high speed presses with review of application, removal may be needed after die change. • Standard with seals effective up to 212°F (100°C). Specials available for temperature up to 480°F (250°C). |
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BALL VS. ROLLER

BALL TYPE

ROLLER TYPE

APPLICATION

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| <ul style="list-style-type: none"> • Allows movement in any direction. • Requires more ball lifters than rollers, for the same load. • Rolling resistance = 2-4%* of the die weight. | <ul style="list-style-type: none"> • Allows movement in one direction
Front to Back (STD)
Left to Right
Dual direction • Can support and lift more weight. • Rolling resistance = 1 - 3%* of the die weight. |
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PRODUCT FEATURES

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| <ul style="list-style-type: none"> • Hydraulic ball lifters operate at 1,450 psi. • Can not be used inverted. • Each ball lifter rests on an oil filled nest of small ball bearings and is contained in a forged cup. • Single point ball contact can cause brinnelling (dies over 1500# should use hardened wear strips) or bottom of die hardened to: <ul style="list-style-type: none"> • Brinnell HB = 300 • Rockwell Rc = 32, Rb = 108 | <ul style="list-style-type: none"> • Hydraulic roller lifters operate from 1,740 to 5,800 psi depending on the model. • Can be inverted due to sealed rollers. • Each roller lifter is a pre-lubricated cam roller with needle bearings mounted in a common bar or support yoke. • Contact load is spread over the larger roller surface, reducing brinnelling. |
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*The rolling resistance is the force required to keep the die moving (not break-away force). The rolling resistance is the die weight x co-efficient of friction. Resistance is dependent on surface condition, such as hardness, smoothness, holes, and alignment.