

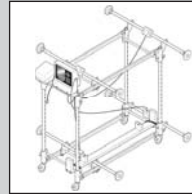
**DAMAGE REDUCTION OPTIONS**

**Load Cushion™**



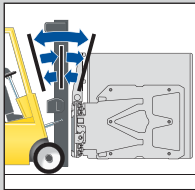
Hoist System Accumulator that absorbs shocks and reduces the clamp force required to handle the load. Available in 475 ml (1 pt) and 950 ml (1 qt) sizes.

**4-Point Force Distribution Tester**



Portable design measures clamp force in 4 quadrants of the contact pad for a reliable measurement. Calibration bar included to ensure equal sensor arm lengths and accurate pressure measurements.

**Tilt Control**



Automatically controls the angle of the mast and attachment, aligning pad with the load.

Two-Way Tilt Control

**TFC™- Touch Force Control System**



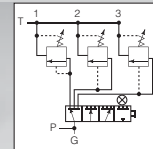
TFC™ is an interactive and easy-to-use touch screen system that works in applications where regulating clamp force and pressure control is required.

**Volumetric Force Control (VFC)**



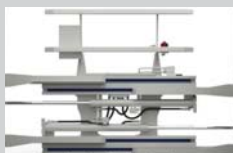
VFC system automatically adjusts clamping pressure based on volume of the load. This option is designed to reduce damage caused by excessive force, the VFC calculates the size of load and will clamp with the least amount of force. The operator does not need to judge the clamping force with manual controls, it is completely automatic.

**Manual 3-Position Pressure Regulator**



(Three pressure relief settings plus truck relief) Allows clamping force to vary from load to load using the minimum required hydraulic pressure settings. Use in conjunction with Low Pressure Tank Line Kit.

Input Flow	Pressure Adjustment
8-75 l/min.	7-207 bar



**Automatic Pressure Control (APC)**

The Automatic Pressure Control system automatically adjusts clamping pressure based on load width only. This option is designed to reduce damage caused by excessive force, the APC detects the size of load and will clamp with the 2 or 3 pre-set amounts of force. The operator does not need to judge the clamping force with manual controls, it is completely automatic.

**Hydraulic Flow & Pressure – Hydraulic Functions**

Model	Maximum Attachment Operating Pressure (bar)	Maximum Deliverable Truck Pressure (bar)	Attachment Pressure Protected Yes/No?	Min-Rec-Max Function 3 (sideshift) (lpm)	Min-Rec-Max Function 4 (clamp) (lpm)	Attachment Number of Functions	Truck Auxiliary Valves Required
12J/15J/18J High Pressure	190	250	Yes	4 – 19 – 38	19 – 45 – 61	2	2
12J/15J/18J Low Pressure	155	189	Yes	4 – 19 – 38	19 – 45 – 61	2	2

▶ If the maximum deliverable truck pressure exceeds maximum clamp or rotate operating pressure and the attachment is not pressure protected, then auxiliary pressure protection is required.

**HYDRAULIC FUNCTIONS** Optional Non-Sideshifting models

Model	Attachment Number of Functions	Truck Auxiliary Valves Required
12J/15J/18J	1	1

▶ The models above are available without sideshifting, impacting the number of functions as follows.

**EXTERNAL SIDESHIFT**

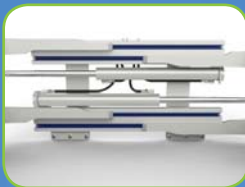
Class 2 External sideshift = ET + 25 mm/Weight + 37 kg  
 Class 3 External sideshift = ET + 38 mm/Weight + 62 kg

▶ If the clamps are specified with the external sideshift, the following changes to ET and weight will result.

# Innovative White Goods Clamp With Optimal Clamp Force Distribution



*Shown with optional VFC*



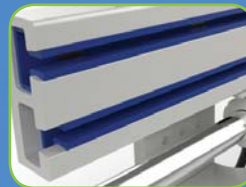
Industry leading visibility through frame and arms



Patented 3-Finger Arm design has perfect clamp force distribution



Optional Volumetric Force Control provides no driver input clamp force control



Lube-free, full-width lip over UHMW bearings provide superior durability



Adjusta-Block mechanism provides easy method to properly adjust clamp force distribution

## APPLICATIONS

Designed for the warehousing, beverage, white goods, appliance and electronics industries, the WG Model clamps allow palletless handling, which improves warehouse space utilization. The WG model features and a variety of options result in improved productivity and less product damage.

## FEATURES

**Efficient hydraulic system which minimises energy consumption and maximises performance.**

- Clamp and backhand protection.
- Flow divider for equal arm movement.
- Top-mounted hydraulic cartridges and test port for ease of access.
- Sideshift circuit relief optimises sideshift speed.

**Rugged design for optimal strength, durability and performance.**

- High strength steel frame.
- Lubrication-free, full length UHMW bearings.
- High strength steel castings.

**Efficient arm design.**

- Thin arm profile for manipulating tight loads between stacks.
- Rubber-faced aluminum contact pads for secure handling of loads.
- Patented multi-support design for optimal clamp force distribution.
- Patented six-point adjustment points (Adjusta-Block) on arms for adjusting clamp force distribution. (WGE, WGF models).

**Designed for convenience and performance.**

- Integrated true centring key for precise and secure installation.
- Available in two pressure offerings to match attachment to truck hydraulic system.

## MODELS

- Several arm configurations available:
  - **WGF:** Flexipad, both arms single articulating.
  - **WGS:** Both arms single articulating.

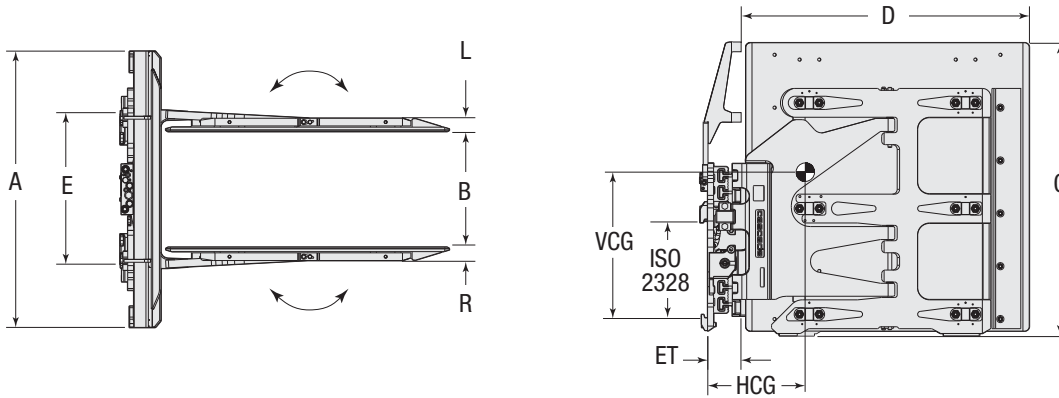
*Optional Models:*

- **WGC:** left (rigid and thin) arm, right with two independently articulating pads.
- **WGE:** left arm single articulating, the right with two independently articulating pads.

## OPTIONS

- Custom opening ranges and frame widths.
- Custom arm lengths, heights and pad surfaces. Application specific contact pads (sizes & surfaces).
- Load bumper for extra protection when handling loose loads.
- Extensions for load backrest and arms for extended tier handling.
- Various ISO mounting options including class III and quick-disconnect features.
- External sideshift mounting.
- Alternate valve configurations for left hand or right hand third and fourth function hydraulic installation.
- Application-specific customization.

## J-SERIES WHITE GOODS CLAMPS



### WGF - Single Articulating Arms Flexipads with Adjusta-Block

Catalogue Order No.	Capacity@ Load Centre kg@mm	Frame Width (mm) A	Opening Range (mm) B	Overall Attachment/ Arm Height (mm) C	Useable Arm Length (mm) D	Hook Spread (mm) E	Overall Pad Thickness L	Effective Thickness (mm) R	ET	Horizontal Centre of Gravity (mm) HCG	Vertical Centre of Gravity (mm) VCG	Weight kg	Mounting Class ISO 2328
<b>High Pressure - For trucks delivering more than 190 bar of operating pressure.</b>													
12J-WGF-2A-0011	1200@600	1150	468 - 1918	1220	1200	772	50	50	138	420	415	714	2A ①
12J-WGF-2A-0021	1070@675	1150	460 - 1910	1220	1350	772	50	50	138	461	419	762	2A ①
12J-WGF-2A-0031	1030@700	1150	456 - 1906	1220	1400	772	50	50	138	479	420	778	2A ①
12J-WGF-2A-0041	1070@675	1400	474 - 2154	1220	1350	772	50	50	138	444	416	796	2A ①
12J-WGF-2A-0051	1030@700	1400	470 - 2150	1220	1400	772	50	50	138	462	418	812	2A ①
12J-WGF-2A-0061	1070@675	1600	554 - 2530	1220	1350	972	50	50	138	431	413	827	2A ①
12J-WGF-2A-0071	1030@700	1600	550 - 2526	1220	1400	972	50	50	138	448	414	843	2A ①
15J-WGF-2A-0081	1330@675	1400	474 - 2154	1220	1350	772	48	48	138	446	417	794	2A ①
15J-WGF-2A-0091	1290@700	1400	470 - 2150	1220	1400	772	48	48	138	463	418	809	2A ①
15J-WGF-2A-0101	1330@675	1600	554 - 2526	1220	1350	972	48	48	138	432	413	824	2A ①
15J-WGF-2A-0111	1290@700	1600	550 - 2526	1220	1400	972	48	48	138	449	414	840	2A ①
18J-WGF-2A-0121	1600@675	1400	474 - 2154	1220	1350	772	48	48	143	444	415	806	2A ①
18J-WGF-2A-0131	1540@700	1400	470 - 2150	1220	1400	772	48	48	143	461	416	822	2A ①
18J-WGF-2A-0141	1600@675	1600	554 - 2530	1220	1350	972	48	48	143	430	412	838	2A ①
18J-WGF-2A-0151	1540@700	1600	550 - 2526	1220	1400	972	48	48	143	447	413	854	2A ①

#### Low Pressure - For trucks delivering less than 190 bar of operating pressure consult Cascade.

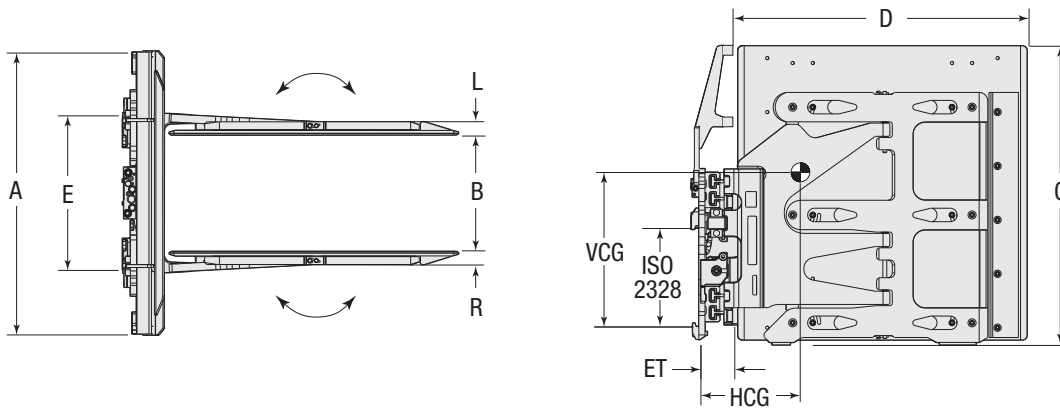
J-Series: Lift trucks with auxillary pressures between 155 and 189 bar maximum requires low pressure attachments. Lift trucks with auxilliary presssures between 190 and 250 bar maximum require high pressure attachments.

**A shim adjusted left single arm and double articulating right arm with Adjusta-Block model (WGE) is also available.  
A rigid left arm and double articulating right arm with Adjusta-Block model (WGC) is also available.**

① Mounting Class 3A available. Consult Cascade.

▶ All models include a integrated sideshift circuit.

▶ Standard valve configuration is with clamp ports on the right and sideshift on the left. Reverse valve configuration optional. Reverse valve configuration optional.



**WGS - Single Articulating Arms - Shim adjustable**

Catalogue Order No.	Capacity@ Load Centre kg@mm	Frame Width (mm) A	Opening Range (mm) B	Overall Attachment/ Arm Height (mm) C	Useable Arm Length (mm) D	Hook Spread (mm) E	Overall Pad Thickness L	Effective Thickness (mm) R	ET	Horizontal Centre of Gravity (mm) HCG	Vertical Centre of Gravity (mm) VCG	Weight kg	Mounting Class ISO 2328
<b>High Pressure - For trucks delivering more than 190 bar of operating pressure.</b>													
12J-WGS-2A-0011	1200@600	1150	472 - 1922	1220	1200	772	50	50	138	412	415	722	2A ①
12J-WGS-2A-0021	1070@675	1150	464 - 1914	1220	1350	772	50	50	138	467	419	775	2A ①
12J-WGS-2A-0031	1030@700	1150	460 - 1910	1220	1400	772	50	50	138	486	421	792	2A ①
12J-WGS-2A-0041	1070@675	1400	478 - 2158	1220	1350	772	50	50	138	451	417	809	2A ①
12J-WGS-2A-0051	1030@700	1400	474 - 2154	1220	1400	772	50	50	138	469	418	826	2A ①
12J-WGS-2A-0061	1070@675	1600	558 - 2534	1220	1350	972	50	50	138	437	413	839	2A ①
12J-WGS-2A-0071	1030@700	1600	554 - 2530	1220	1400	972	50	50	138	455	415	857	2A ①
15J-WGS-2A-0081	1330@675	1400	478 - 2158	1220	1350	772	48	48	138	452	417	806	2A ①
15J-WGS-2A-0091	1290@700	1400	474 - 2154	1220	1400	772	48	48	138	470	418	824	2A ①
15J-WGS-2A-0101	1330@675	1600	558 - 2534	1220	1350	972	48	48	138	438	414	836	2A ①
15J-WGS-2A-0111	1290@700	1600	554 - 2530	1220	1400	972	48	48	138	456	415	854	2A ①
18J-WGS-2A-0121	1600@675	1400	478 - 2158	1220	1350	772	48	48	143	449	416	822	2A ①
18J-WGS-2A-0131	1540@700	1400	474 - 2154	1220	1400	772	48	48	143	468	417	836	2A ①
18J-WGS-2A-0141	1600@675	1600	558 - 2534	1220	1350	972	48	48	143	436	412	850	2A ①
18J-WGS-2A-0151	1540@700	1600	554 - 2530	1220	1400	972	48	48	143	454	413	868	2A ①

**Low Pressure - For trucks delivering less than 190 bar of operating pressure consult Cascade.**

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**A shim adjusted left single arm and double articulating right arm with Adjusta-Block model (WGE) is also available. A rigid left arm and double articulating right arm with Adjusta-Block model (WGC) is also available.**

① Mounting Class 3A available. Consult Cascade.

▶ All models include a integrated sideshift circuit.

▶ Standard valve configuration is with clamp ports on the right and sideshift on the left. Reverse valve configuration optional. Reverse valve configuration optional.