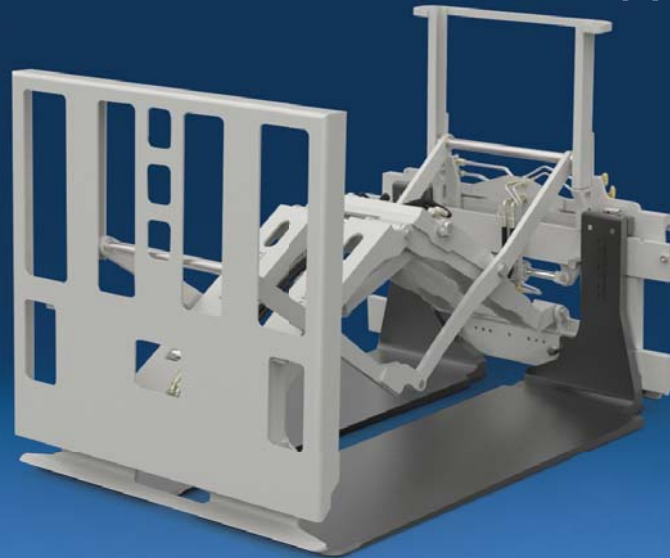


Smooth and Efficient Load Transfers in Palletless Applications



Clean hydraulic plumbing design



Fully tempered steel platens with chamfered tips



Rigid dual cylinder pantograph mechanism



Excellent visibility through and around faceplate



Durable and reliable gripper jaw

APPLICATIONS

These Push/Pulls are rugged, heavy duty attachments for high cycle slipsheet applications requiring high productivity with low maintenance. The Cascade dedicated push/pulls are the best performing and durable Push/Pull available.

FEATURES

High production slipsheet handling capabilities

- 4° tilting faceplate with industry leading visibility windows for increased load handling productivity
- Gripper Jaw firmly grips slipsheet consistently limiting slip sheet damage and extending slip sheet life.
- Clean hydraulic plumbing design for long life and leak resistance.

Strength and durability in demanding applications

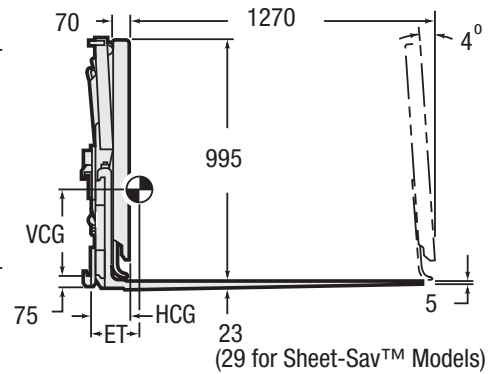
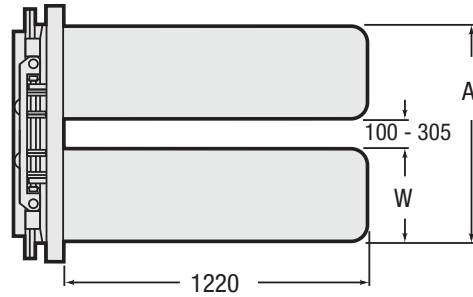
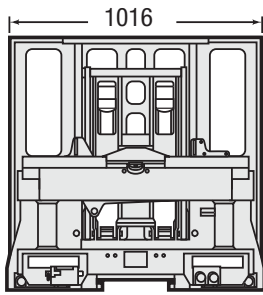
- Rugged dual cylinder Pantograph Mechanism for long life in the most demanding applications
- Adjustable T1 steel platens with chamfered tips for smooth load transfers and reduced product damage.
- “Cushion” cylinders reduce operating noise.

Easy, versatile mounting

- Sideshift J-plate is automatically engaged when the push/pull is set on the truck carriage.
- Quick disconnect models do not require a false carriage.

OPTIONS

- Quick-change hydraulic couplers.
- Quick-disconnect mounting.
- Hydraulic flow control valve.
- Extended height and width faceplates.
- Extended push strokes.
- Faceplate stop group.
- Attachment mounted solenoid adaption group.
- Optional platen sizes.
- Forks and multiple fork groups.
- Class III mounting (45E only).



Catalogue Order No.	Capacity @ Load Centre kg	Platen width (mm) W	Outside Platen Spacing (mm) A	Effective Thickness (mm) ET	Horizontal Centre of Gravity (mm) HCG	Vertical Centre of Gravity (mm) VCG	Weight kg	Mounting Class ISO 2328
Sideshifting Push/Pull								
35E-PPS-A001	1600@610	455	1015-1220	165	221	223	502	2A
35E-PPS-Q002	1600@610	455	1015-1220	165	221	223	502	2A-QD
35E-PPS-A003	1600@610	380	865-1065	165	203	236	480	2A
35E-PPS-Q004	1600@610	380	865-1065	165	203	236	480	2A-QD
Non Sideshifting Push Pull								
35E-PPB-A001	1600@610	455	1015-1220	165	223	223	495	2A
35E-PPB-Q002	1600@610	455	1015-1220	165	223	223	495	2A-QD
35E-PPB-A003	1600@610	380	865-1065	165	206	239	473	2A
35E-PPB-Q004	1600@610	380	865-1065	165	206	239	473	2A-QD
Hydraulically Adjustable Platens & Sideshifting								
35E-PHS-A001 ①	1600@610	455	1015-1220	165	221	223	507	2A
35E-PHS-Q002 ①	1600@610	455	1015-1220	165	221	223	507	2A-QD
35E-PHS-A003 ①	1600@610	380	865-1065	165	203	236	484	2A
35E-PHS-Q004 ①	1600@610	380	865-1065	165	203	236	484	2A-QD
Sheet-Sav® Sideshifting								
35E-PAS-A001 ②	1600@610	455	1015-1115	229	256	208	634	2A
35E-PAS-Q002 ②	1600@610	455	1015-1115	229	256	208	634	2A-QD
35E-PAS-A003 ②	1600@610	380	865-965	229	239	223	604	2A
35E-PAS-Q004 ②	1600@610	380	865-965	229	239	223	604	2A-QD
Sideshifting Load Push								
35E-PLS-A001	1600@610	455	1015-1220	165	231	216	457	2A
35E-PLS-Q002	1600@610	455	1015-1220	165	231	216	457	2A-QD
35E-PLS-A003	1600@610	380	865-1065	165	211	229	434	2A
35E-PLS-Q004	1600@610	380	865-1065	165	211	229	434	2A-QD
Non Sideshifting Load Push								
35E-PLB-A001	1600@610	455	1015-1220	165	234	218	450	2A
35E-PLB-Q002	1600@610	455	1015-1220	165	234	218	450	2A-QD
35E-PLB-A003	1600@610	380	865-1065	165	213	231	427	2A
35E-PLB-Q004	1600@610	380	865-1065	165	213	231	427	2A-QD

- ① This base unit is equipped with solenoids and may be controlled with a single auxiliary valve on the truck.
- ② This unit is solenoid equipped for the sheet-sav function. A two function hydraulic supply is required. The sideshift and push/pull functions are actuated directly with the auxiliary valves. The sheet-sav function is actuated by depressing the solenoid button and then actuating the push/pull valve. The control knob with a push button is included.

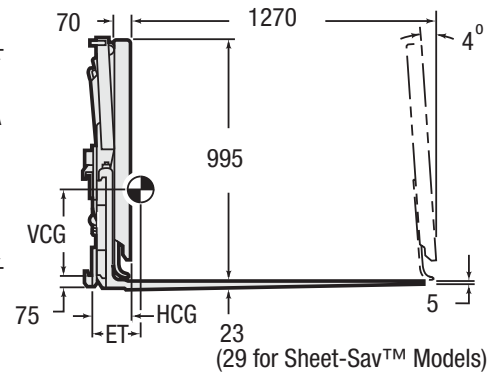
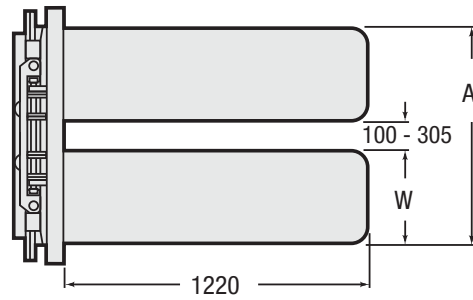
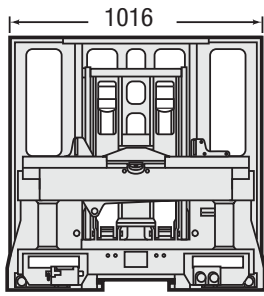
- ▶ Sideshift stroke for sideshifting push/pull 200 mm.
- ▶ **IMPORTANT:** Solenoid voltage must match truck voltage. specify truck voltage when ordering.

Mounting Class Information

Mounting Class	Truck Capacity @ Load Centre
2	1000-2500 kg at 500 mm
3	2501-4999 kg at 500 mm
4	5000-8000 kg at 600 mm

Hydraulic Functions

Model	Hydraulic Functions	Truck Auxiliary Valves Required
PPB & PLB	1	1
PPS & PLS	2	2
PAS	3	2
PHS & PPJ	3	1



Catalogue Order No.	Capacity @ Load Centre kg	Platen width (mm) W	Outside Platen Spacing (mm) A	Effective Thickness (mm) ET	Horizontal Centre of Gravity (mm) HCG	Vertical Centre of Gravity (mm) VCG	Weight kg	Mounting Class ISO 2328
Sideshifting Push/Pull								
45E-PPS-A001	2050@610	455	1015-1220	165	231	216	516	2A
45E-PPS-Q002	2050@610	455	1015-1220	165	231	216	516	2A-QD
45E-PPS-A003	2050@610	380	865-1065	165	211	229	491	2A
45E-PPS-Q004	2050@610	380	865-1065	165	211	229	491	2A-QD
Non Sideshifting Push/Pull								
45E-PPB-A001	2050@610	455	1015-1220	165	234	218	509	2A
45E-PPB-Q002	2050@610	455	1015-1220	165	234	218	509	2A-QD
45E-PPB-A003	2050@610	380	865-1065	165	213	231	484	2A
45E-PPB-Q004	2050@610	380	865-1065	165	213	231	484	2A-QD
Hydraulically Adjustable Platens & Sideshifting								
45E-PHS-A001 ①	2050@610	455	1015-1220	165	231	216	519	2A
45E-PHS-Q002 ①	2050@610	455	1015-1220	165	231	216	519	2A-QD
45E-PHS-A003 ①	2050@610	380	865-1065	165	211	229	495	2A
45E-PHS-Q004 ①	2050@610	380	865-1065	165	211	229	495	2A-QD
Sheet-Sav® Sideshifting								
45E-PAS-A001 ②	2050@610	455	1015-1115	229	256	208	634	2A
45E-PAS-Q002 ②	2050@610	455	1015-1115	229	256	208	634	2A-QD
45E-PAS-A003 ②	2050@610	380	865-965	229	239	223	604	2A
45E-PAS-Q004 ②	2050@610	380	865-965	229	239	223	604	2A-QD
Sideshifting Load Push								
45E-PLS-A001	2050@610	455	1015-1220	165	241	208	470	2A
45E-PLS-Q002	2050@610	455	1015-1220	165	241	208	470	2A-QD
45E-PLS-A003	2050@610	380	865-1065	165	221	223	445	2A
45E-PLS-Q004	2050@610	380	865-1065	165	221	223	445	2A-QD
Non Sideshifting Load Push								
45E-PLB-A001	2050@610	455	1015-1220	165	244	211	464	2A
45E-PLB-Q002	2050@610	455	1015-1220	165	244	211	464	2A-QD
45E-PLB-A003	2050@610	380	865-1065	165	223	223	439	2A
45E-PLB-Q004	2050@610	380	865-1065	165	223	223	439	2A-QD

- ① This base unit is equipped with solenoids and may be controlled with a single auxiliary valve on the truck.
- ② This unit is solenoid equipped for the sheet-sav function. A two function hydraulic supply is required. The Sideshift and Push/Pull functions are actuated directly with the auxiliary valves. The sheet-sav function is actuated by depressing the solenoid button and then actuating the push/pull valve. The control knob with a push button is included.

- ▶ Minimum carriage width non sideshifting - 710 mm.
- ▶ Sideshift stroke for sideshifting Push/Pull 200 mm.
- ▶ IMPORTANT: Solenoid voltage must match truck voltage. Please specify truck voltage when ordering.

Mounting Class Information

Mounting Class	Truck Capacity @ Load Centre
2	1000-2500 kg at 500 mm
3	2501-4999 kg at 500 mm
4	5000-8000 kg at 600 mm

Hydraulic Functions

Model	Hydraulic Functions	Truck Auxiliary Valves Required
PPB & PLB	1	1
PPS & PLS	2	2
PAS	3	2
PHS & PPJ	3	1

35E & 45E CARRIAGE MOUNT PUSH/PULLS

All E-Series carriage mount push/pulls are equipped with Cascade's SIDESHIFTING feature (see A.) for unbeatable maneuverability and with Q.D. hooks for convenience. The 35E model is rated for maximum load capacity of 1600 kg. and 45E for 2050 kg. Other differences include:

The 35E is designed for short wheel-based, counter-balanced trucks in the 2,500 to 4,500 lbs. capacity range. The small truck 35E combination provides maximum net load handling capacity, short overall length and excellent maneuverability. It is ideal for truck trailer and rail car work, as well as for general slipsheet warehousing applications.

The 45E is a heavy duty push/pull, well suited for double load stacking applications, as well as for rail car loading and unloading.

BASE UNITS

A. Sideshifting standard on all carriage mount push/pulls.

B. Hydraulically adjustable platens.

- For applications requiring extensive pallet handling.
- Allows driver to adjust the platen spread from his seat.

C. Sideshifting platens.

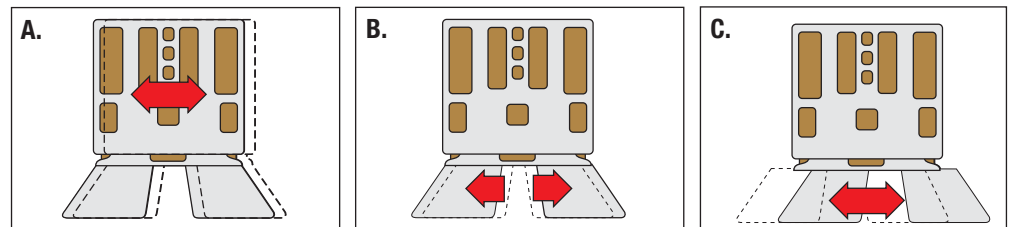
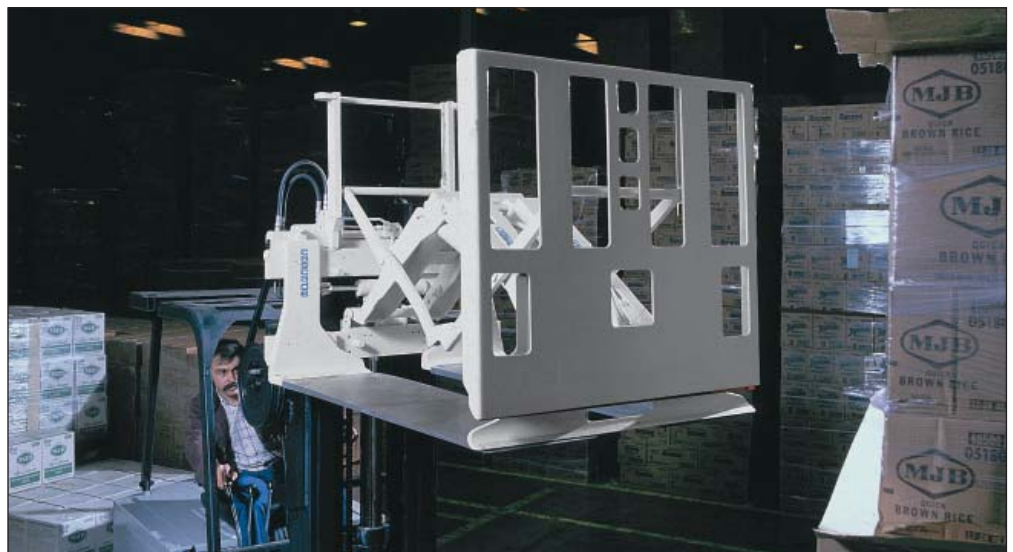
- Works like basic sideshift except the frame doesn't move.
- For narrow or restricted applications.
- 200 mm sideshift capacity.

D. Load Push

- Does not have gripper mechanism to pull slipsheet.
- For loads that are "scooped" onto the platens.

E. Sheet Sav.®

- Allows the driver to retain the slipsheet when the load is pushed off.



Hydraulic Flow & Pressure

Model	Maximum Pressure bar	Number of Functions	Min-Rec-Max Function 1 (Sideshift) l/min.	Min-Rec-Max Function 2 (Push/Pull) l/min.	Min-Rec-Max Function 3 (Solenoid Valve) l/min.
Non-Sideshifting Push/Pulls, Load Push	160	1	n/a	15 - 26 - 38	n/a
Sideshifting Push/Pulls	160	2	4 - 8 - 11	15 - 26 - 38	n/a
Sideshifting Platens, Sheet-Sav™, Load Push	160	3	4 - 8 - 11	15 - 26 - 38	15 - 26 - 38