INDUSTRIAL MAGNETICS

EST-1961

AG-01C

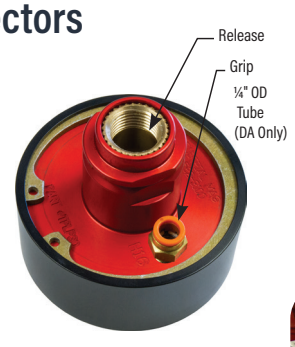
END-OF-ARM TOOLING

TRANSPORTER® LOW PROFILE

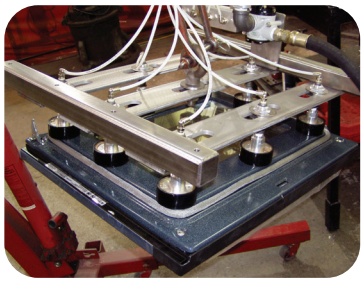
Permanent Magnetic, Air Release Tooling/End Effectors

Applications & Benefits:

- Automated press to press transfer systems
- Robotic "Pick & Place"
- Manual and automated machine loading/unloading
- Outlasts vacuum cups in most applications
- Grasps odd shaped or perforated parts
- Increases production and reduces shop air costs
- Operates effectively in any orientation
- Will not drop parts if system air-loss occurs
- Reduces noise
- Maximum operating temperature 140°F (60°C)
- Destacks* without double-blanking when the appropriate magnet is selected for the application
- Double Acting Option Available**



TPLP30DA



Transporter® Low Profile (TPLP) Magnets:

The Transporter® LP is designed to directly replace vacuum cups with minor tooling and valve adjustments. Powerful Rare Earth magnets positively hold the parts during transfer, greatly reducing the chance of slipping and shifting of your part due to oily coatings. An optional "low-skid" boot is also available to increase grip on parts during transfer. A short burst of shop air pressure is applied in order to release parts. To pick-up or grip parts, the air pressure must be exhausted to the atmosphere.

- Powerful Rare Earth magnet positively holds parts - no dropping or shifting in the event of air loss
- Lightweight, low-profile design for minimal die clearance
- Instantaneous pick-up and release
- Uses up to 95% less air than vacuum cups
- Easy installation on existing tooling booms or robotic face plate.
- Threads onto a variety of typical 3/8 NPT vacuum cup tooling, including quick disconnect adapters
- **3/8 BSPP Fitting - British Standard Pipe Parallel (G) Thread (Option BS):** Available on TPLP15 & TPLP30 only.
- **Extra Strength (Option ES)**: Available on TPLP30 only. **See Chart for lifting specifications.**

Key Markets

Automotive Tier 1 & 2, Stamping

Related Products

Sheet Lifters, Tube Lifters, Transporters®, Permatrol® Family, Perm-Electro Lifts, PowerLifts®, Creative Lifts®

***Destacking (Option DS):** Required for applications destacking metal that is thin. **See Chart.** (available on TPL30 & TPLP50 only). The Destacking Option features a special magnetic circuit that is designed to destack sheets as thin as 0.030" (22 ga).

****Double Acting (Option DA):** O-Ring seals & extra air inlet allow a short blast of air to engage or disengage grip function (available as TPL30DA & TPLP50DA only). Operates at pressures as low as 15 psi. Allows use of 1/4" Lines. Run up to 16 magnets from 1 valve.

NOTE: Supply air pressure must not exceed 60 PSI (30 PSI for Double Acting models) at the Transporter® LP inlet. Operating at pressures above 60 PSI (30 PSI for Double Acting models) will lead to premature failure of the unit. Air must be clean, dry and non-lubricated. Air pressure should never be applied to the Transporter® LP during a transfer cycle. This will cause the loss of a part. Apply air when in position to release the part. In some applications, air may need to be applied to retract the magnet before contacting the part. If the magnet "reach out" lifts the part from the guides before making contact, causing loss of part position, apply air to the Transporter® LP prior to lifting the part. Another option is to use a Double Acting TPLP.

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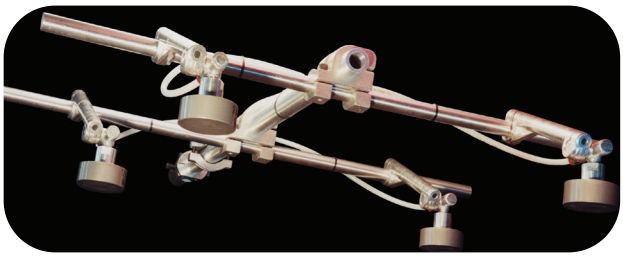
TRANSPORTER® LOW PROFILE SPECIFICATIONS

Dimensions and Holding Values For Standard Models



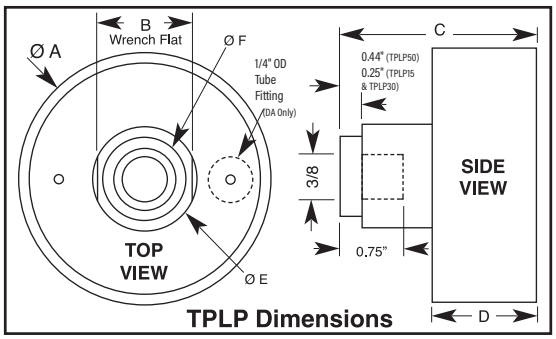
- Easy to retrofit on existing tooling
- Optional low-skid boot protects the surface of parts & prevents shifting
- Uses less air than vacuum cups
- Instantaneous pick-up and release
- Positively holds parts - no dropping or shifting in the event of air loss
- Compatible with most 3/8 NPT tooling
- 3/8 BSPP option (BS) available on TPLP15 & TPLP30

IMPERIAL DIMENSIONS (IN)

Part No.	A	B	C	D	E	F	Wt. (lbs)
TPLP15	1.5	0.875	2.48	1.27	1.06	0.96	0.30
TPLP30	3	1.125	2.48	1.25	1.27	0.96	0.80
TPLP50	5	0.875	3.93	1.97	1.81	1.00	3.0

METRIC DIMENSIONS (CM)

Part No.	A	B	C	D	E	F	Wt. (kgs)
TPLP15	3.81	2.22	6.30	3.23	2.69	2.44	0.136
TPLP30	7.62	2.86	6.30	3.18	3.23	2.44	0.363
TPLP50	12.70	2.22	9.98	5.00	4.60	2.54	1.361



TPLP Dimensions

MAXIMUM LIFTING CAPACITY (LBS.)

THICKNESS OF STEEL		TPLP15		TPLP30 (DA)		TPLP30DS (DA)		TPLP30ES (DA)		TPLP50 (DA)		TPLP50DS (DA)	
		Plain	Boot/Pad	Plain	Boot/Pad	Plain	Boot/Pad	Plain	Boot/Pad	Plain	Boot/Pad	Plain	Boot/Pad
ga./in.	mm	0.00	0.035	0.00	0.035	0.00	0.035	0.00	0.035	0.00	0.035	0.00	0.035
26 ga (.018)	0.5	10	7	26	22	24	19	30	25	38	33	56	42
22 ga (.030)	0.7	14	9	38	31	36	24	44	34	61	54	86	58
18 ga (.0478)	1.2	16	9	58	44	44	28	70	54	93	82	123	87
16 ga (.060)	1.5	16	10	66	47	47	28	80	59	115	100	120	86
14 ga (.075)	1.9	17	10	69	45	48	28	91	62	133	113	151	97
12 ga (.100)	2.5	17	10	73	48	51	29	98	64	144	122	159	107
0.1875"	5.0	17	10	74	48	52	29	98	64	153	122	166	112
2" plate	50.8	17	10	77	48	53	29	98	64	162	124	133	106

Double Blanks (DO NOT USE FOR DESTACKING) | *Does Not Double Blank*

NOTE: Lifting capacity listed is **NOT** derated. Proper system design must include no less than 3/1 safety factor. (Typical systems 3/1 to 6/1).

VALVING SPECIFICATIONS, AIR CONSUMPTION REQUIREMENTS & INSTALLATION INFORMATION

Manifold to Magnet Line size		# Of Magnets TPLP15, 30, 30ES	Pressure Required at Inlet to system						
			Valve Size • Minimum (Cv):				# of Magnets TPLP50 (Cv Valve Min: 5.0)	TPLP 50	TPLP 50DA (Cv Valve Min: 3.5)
Tubing Length	Tubing OD		Cv-5.0 TPLP 15	Cv-5.0 TPLP 30	Cv-5.0 TPLP 30ES	Cv-2.0 TPLP 30DA			
8 ft.	3/8"	2	30	35	45	20	1	50	20
		4	35	40	50	24	2	60	24
		6	40	45	55	28	3	NR	28
		8	40	45	55	30	4	NR	30
	1/2"	2	30	40	45	20	1	45	20
		4	35	45	50	24	2	50	24
		6	40	50	60	28	3	60	28
		8	40	50	60	30	4	NR	30

Air Flow to Release (Per Magnet)						
Pressure (PSI)	Flow (SCFM)			Pressure (PSI)	Flow (SCFM)	
	TPLP 15	TPLP 30	TPLP 50		TPLP 30DA	TPLP 50DA
30	2.70	2.60	0.40	20	0.01	0.17
35	3.00	2.95	0.45	22	-	-
40	3.25	3.25	0.50	24	-	-
45	3.50	3.50	0.50	26	-	-
50	3.75	3.75	0.55	28	-	-
55	3.85	4.00	0.60	30	-	-
60	4.00	4.25	0.61			
NR = Not Recommended						

NOTE: (1). Tested using 3/16" thick material.
(2). Double Action option requires a minimum of 1/4" OD tubing to magnet(s).