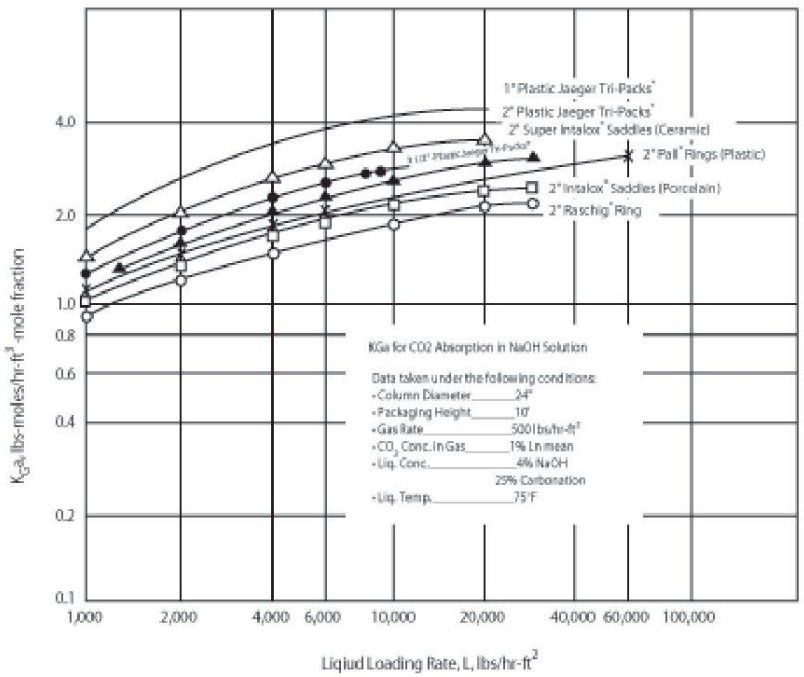
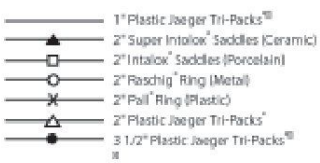
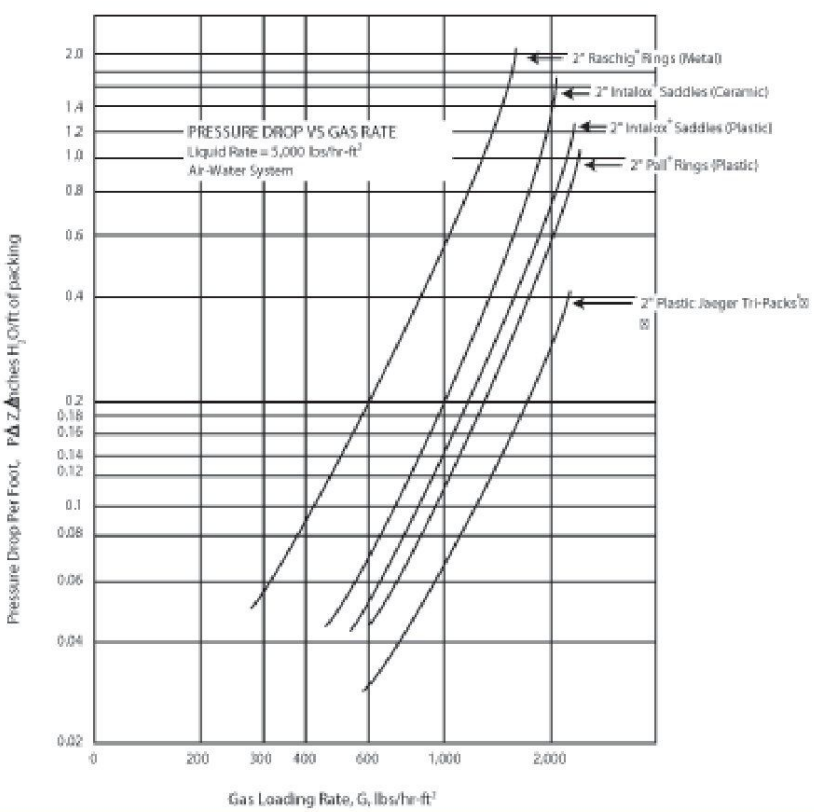
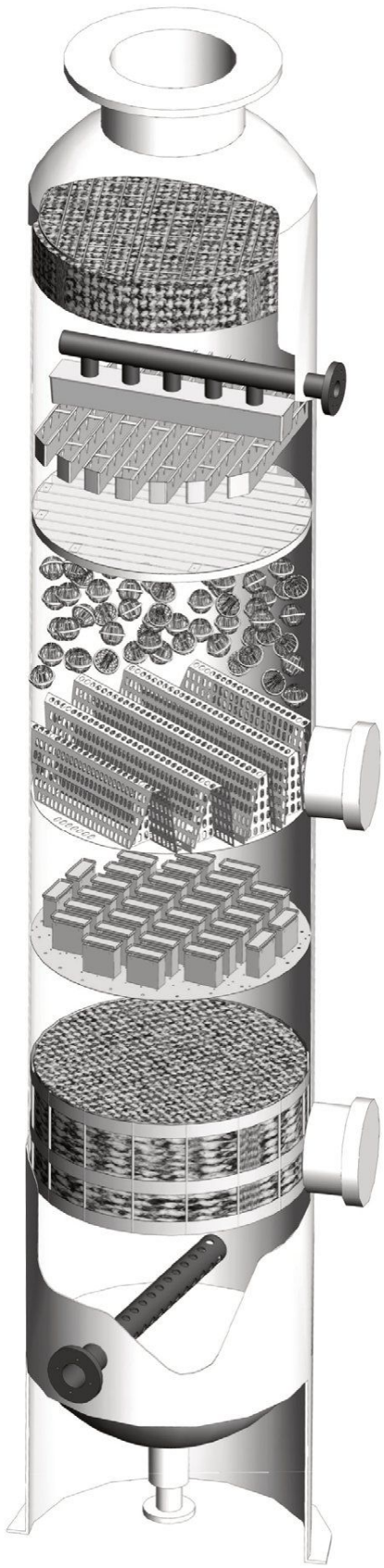
Jaeger Tri-Packs® Plastic Packing









Mass Transfer Packing

Jaeger Tri-Packs® Plastic Packing

Plastic Jaeger Tri-Packs® is a hollow spherical column packing constructed of a unique network of ribs, struts, and drip rods. Its geometry was totally revolutionary and unprecedented at the time of its 1978 introduction and it continues to be the packing to which all others are compared. Plastic Jaeger Tri-Packs® are distinguished from other packing by its superior geometric shape. Their spherical shape allows each element to roll into the "packed position" without forming void areas common to irregular shaped packing or those with excessive pins and appurtenances. With Jaeger Tri-Packs®, there is no need for allowances for settling and nesting is virtually impossible. The round Jaeger Tri-Packs® offers reliable and predictable loading of your tower which means reliable and predictable performance. In addition to the superior geometric shape, an active surface area is vital to mass transfer.

The unique network of ribs, struts and drip rods have proven to give the Jaeger Tri-Packs® a distinct advantage in providing excellent wetting qualities and maintaining liquid distribution through the packed bed. Some suppliers claim more surface area, but surface area alone is not an indication of performance. Excessive surface area can impede proper gas and liquid contact and always results in higher pressure drop which increases horsepower requirements and operating costs. The Jaeger Tri-Packs® offers an optimum surface area to open area ratio which yields excellent mass transfer efficiency and reduced operating costs.

Jaeger Tri-Packs® are available in four sizes, 1", 1.25", 2", and 3.5". Jaeger Products uses only prime, virgin resins and no recycled materials are ever used. Jaeger Tri-Packs® made of polypropylene (PP) have been certified by NSF to Standard 61 for use in potable water applications. Almost any injection moldable resin is available; the most common include PP, PE, PP-G, PVC, CPVC, Noryl, Kynar®, Halar®, Teflon® and many more.

MATERIAL	SERVICE TEMP. (ºF) **	1" DIAMETER	1 1/4" DIAMETER	2" DIAMETER	3 1/2" DIAMETER
Polypropylene (PP)	180	901010	901012	901020	901040
Polyethylene(PE)	160	902010	902012	90202	902040
Polypropylene Glass Filled (PP-G)	210-250*	901GF010	901GF012	901GF020	901GF040
Noryl (PPO)	230	951010	951012	951020	951040
Polyvinylchloride (PVC)	140	905010	905012	905020	905040
Corzan (CPVC)	200	903010	903012	903020	903040
Kynar (PVDF)	280	904010	904012	904020	904040
TopEx (LCP)		953010	953012	953020	953040
Tefzel (ETFE)	350	906010	906012	906020	906040
Teflon (PFA)	400	915010	915012	915020	915040
Halar (ECTFE)	290	907010	907012	907020	907040

MASS TRANSFER DATA

ABSORPTION SYSTEM SYSTEM	G (LB/HR-FT2)	L (LB/HR-FT2)	TEMP. (ºF)	HTU-INCHES		
				1	2	32
HCl-H2O	1792	2048	77	7.0	10.6	12.0
HCl-NaOH	1567	2048	68	6.1	8.8	10.0
Cl2-NaOH	1229	2202	122	9.9	14.5	16.0
NO2-Na2S+NaOH	717	1127	68	32.0	49.2	54.0
NH3-H2SO4	492	1024	68	4.1	6.0	7.0
NH3-H2O	512	1024	68	5.6	8.4	10.0
NH3-H2O	512	4096	68	3.6	5.4	6.2
SO2-NaOH	1946	4096	140	8.1	12.0	14.0
HF-H2O	1844	3072	77	4.6	6.9	8.1
H2S-NaOH	1229	1331	68	13.0	19.4	22.0

PHYSICAL PROPERTIES

SIZE (IN.)	1	1 1/4	2	3 1/2
GEOMETRIC SURFACE AREA (FT2/FT3)	85	70	48	38
PACKING FACTOR (1/FT.)	28	25	16	12
VOID SPACE (%)	90	92	93	95
WEIGHT (LB/FT3)	6.2	5.6	4.2	3.3
NUMBER O PIECES/FT3	2,300	N/A	380	48

Notes:

- Other plastics are available on request..
- * Depending on glass content
- ** At 1 atm, air/water at max. recommended depth)

Transferlox® Plastic Saddles

The high capacity Transferlox® plastic saddle offers distinct advantages over conventional saddle design. The serrated edges promote high mass transfer rates through effective liquid surface renewal. The serrated edges of the Transferlox® saddle reduce bed settling during operation and assist to maintain packing free space and create lower column pressure drop. The Transferlox® Plastic saddles are available in 1", 2", and 3" sizes. They are available in 5 and 10 cubic foot cardboard boxes. The proper installation is by dry dumping with reasonable care.

Applications:

- Air pollution
- Scrubbing
- Liquid - liquid contact
- Absorption, distillation, extraction, stripping, humidification, dehumidification, decarbonating, de-aerating
- Biological filtration

PHYSICAL PROPERTIES

Nominal Size	1"	2"	3"
No. pcs/m3	57500	6400	1400
No. pcs/ft3	1630	190	42
Wt.*kg/m3	95	60	48
Wt.*lb/ft3	5.85	3.75	3.00
Void Space %	90	93	94

MATERIAL	1"	2"	3"	MAX. CONTINUOUS OPERATING TEMP. (ºF)	SPECIFIC GRAVITY
General Grade Polypropylene	918010	918020	918030	220	0.91
Polypropylene (10% Glass reinforced)	919010	919020	919030	260	0.97
High Density Polyethylene	920010	920020	920030	212	0.95
Low Density Polyethylene	9201010	9201020	9201030	190	0.92
PVC	921010	921020	921030	150	1.46
CPVC	922010	922020	922030	185	1.55
PVDF	923010	923020	923030	290	1.77

Transferpack® Plastic Rings

The Transferpack® Plastic ring is a robust ring featuring an open wall construction which maintains even liquid distribution. Reinforced struts provide additional surface area for gas-liquid contact and support the outer ring. The Transferpack® Plastic rings are available in 1", 2", and 3 1/2" sizes. They are available in 5 and 10 cardboard boxes. The proper installation is by dry dumping with reasonable care.

Applications:

- Air pollution
- Scrubbing
- Liquid - liquid contact
- Absorption, distillation, extraction, stripping, humidification, dehumidification, decarbonating, de-aerating
- Biological filtration

PHYSICAL PROPERTIES

Nominal Size	1"	2"	3 1/2"
No. pcs/m3	57500	6400	1400
No. pcs/ft3	1630	190	42
Wt.*kg/m3	95	60	48
Wt.*lb/ft3	5.85	3.75	3.00
Void Space %	90	93	94

MATERIAL	1"	2"	3 1/2"	MAX. CONTINUOUS OPERATING TEMP. (ºF)	SPECIFIC GRAVITY
General Grade Polypropylene	968010	968020	968030	220	0.91
Polypropylene (10% Glass reinforced)	969010	969020	969030	260	0.97
High Density Polyethylene	970010	970020	970030	212	0.95
Low Density Polyethylene	97011010	9701020	9701030	190	0.92
PVC	971010	971020	971030	150	1.46
CPVC	972010	972020	972030	185	1.55
PVDF	973010	973020	973030	290	1.77

Mass Transfer Packing

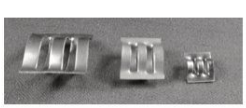
Ceramic Mass Transfer Tower Packings

PHYSICAL PROPERTIES OF CERAMIC PACKINGS

TYPE	SIZE (IN)	PACKING FACTOR (1/FT)	WEIGHT (LB/FT^3)	SURFACE AREA (FT^2/FT^3)	VOID SPACE (%)
RING BUNDLE	2x6	8	42	22	87
NOVALOX® SADDLES 	1/2	201	43	190	73
	3/4	131	41	102	74
	1	97	40	78	74
	1-1/2	52	39	61	75
	2	40	36	37	77
	3	22	35	28	77
BERL® SADDLES 	3/8	457	52.5	201	65
	3/4	259	48.6	131	67
	1	110	43.6	79	70
	1-1/2	79	40.5	54	73
	2	45	37.4	37	75
PALL RING® 	1	107	38.7	67	75
	1-1/2	57	33.7	50	78
	2	43	34.3	37	78
	3	26	33.7	25	78

Metal Mass Transfer Tower Packings

PHYSICAL PROPERTIES OF METAL PACKINGS

TYPE	SIZE	PACKING FACTOR (1/FT)	WEIGHT (LB/FT^3)	SURFACE AREA (FT^2/FT^3)	VOID SPACE (%)
VSP® 	25mm	32	11.9	63	97.5
	40mm	21	10.5	40	98
	50mm	20	9.4	33	98
TOP-PAK® 	75mm	16	10.6	23	98
INTERPACK® 	3/8"	246	40.5	189	90
	5/8"	122	21.5	110	94
	3/4"	73	21.8	79	96
	1-1/2	46	17.1	49	95

Carbon Steel, Stainless Steel, Monel, Nickel, Inconel, Hastelloy, Incollloy, Aluminum, Copper, etc.

Structured Packing

Typical applications for FABCO Metal MAX-PAK™ include:

- Atmospheric crude oil and vacuum columns
- FCC, coker and aromatic fractionators
- Ethyl benzene/styrene distillation for monomer purification
- Ethylene oxide absorbers and isomer splitters
- Caustic/amine absorbers/strippers
- Glycol dehydrators and contactors
- Formaldehyde absorption
- Solvent recovery
- Various heat sensitive purifications such as flavours/fragrances

Available in Alloy Steel

Physical Properties of Metal Max-pak™ Structured Packing

- Nominal Size: 1/2 inch
- Pacing Factor: 19-22
- Void Fraction: 97.45%
- Crimp Side: 27/32 inch
- Corrugation Angle: 45 degrees
- Typical HETP: 8-16 inches
- Specific Area: 77 ft^2/ft^3
- Weight Density: 12.8 lb/ft^3
- Nominal Module Height: 12 inch

BASED ON CYCLOHEXANE-HEPTANE DISTILLATION AT TOTAL REFLUX