Pneumatic Stretching Frames
LPKF ZelFlex

LPKF ZelFlex Protect
Max pressure 6bar

LPKF®
Laser & Electronics

LPKF ZelFlex Z4P

Pneumatic quick release frame
No constant air connection needed

Innovative solution

The LPKF ZelFlex Z4P is a unique pneumatic four-sided stretching frame for quick and uniform clamping of SMT metal stencils. Easy, fast and repetitive changing of stencils is provided by innovative perforation. The patented stretching system using compressed air enables perfect tensioning all across the working area. The air source is disconnected after placing the stencil onto the frame.

- **Perfect tensioning all across the printing area**
- **No air connection required while printing**
- **Compatibility with different printers**
- **Short pay-off time**
- **Royalty-free stencil production**
- **Environment friendly**

Constant print quality

One of the greatest advantages of ZelFlex pneumatic frames is constant tensioning, and therefore consistent and reliable print quality over time. With an advanced perforation and tensioning design, the optimum stretching force is guaranteed. Using different pressure levels various thicknesses of stencil can be used.

No air connection required while printing

Once the stencil is stretched, the air supply is disconnected. The frame can be placed into printer, and used for at least 24 hours without the need for air reconnection.

Compatibility with different printers

ZelFlex Z4P is produced in several sizes, and with the use of various adapters will fit to most screen printers. A fully automated procedure enables the production of custom-sized frames in short periods of time.

Royalty-free production of stencils

The patented ZelFlex stencil perforation is easy and fast for production. It can be cut together with stencil apertures. Reproduction of the patented perforation is royalty-free for ZelFlex customers.

Short pay-off time

Using only one frame for all projects brings considerable savings. Additional benefits are reduced storage space, a simplified cleaning process, and no need for glue and lacquers.

High quality

ZelFlex frames are produced from custom made rigid aluminum profiles with a highly reliable tensioning system. Each frame is assembled individually, and tested according to the highest standards.

Slim Line

The ZelFlex Z4P Slim is a thinner pneumatic stretching frame with all the benefits of the ZelFlex Z4P. The Slim version with its height of 25 mm and reduced weight fits into smaller printers, particularly suitable for prototyping and small batch production.

Measuring gauge

Several frames are available with an air pressure measuring gauge. It shows the actual air pressure in the frame, which is sometimes required for process data recording.

Washing frame

The washing frame is available for clamping of stencils with ZelFlex perforation during the washing process. It can be used for different types of stencil washing machine.

LPKF ZelFlex PROTECT

Pneumatic fast clamping frame
with an innovative protecting system

Unique protective solution

The LPKF ZelFlex Protect is an innovative system based on the ZelFlex frame concept, combined with the patented protective sub-frame. Its unique design facilitates simple handling, while the protection of stencil and operator is increased. The new ZelFlex Protect offers significant advantages in comparison to other framing solutions.

Operator safety & stencil protection

The metal stencil is permanently fixed into the protective frame. This makes handling easier and prevents possible operator injuries on the sharp stencil edges.

Simplified handling, washing and archiving

Stencils are kept in the protective frame for as long as they are needed. The unique solution allows the stencil to be washed and stored together with the protective frame. It can be reused after a stencil is obsolete.

Increased printing area

The height of the ZelFlex Protect is 25 mm (the same as in ZelFlex Slim), and features an increased working area. With adapters, it fits most printers.

Friendly to environment

Compared to mashed frames, health hazard is significantly lower, and no chemical waste is generated. As no adhesive substances are used, cleaning materials are freely selectable.

Extended lifetime of stencils

The ZelFlex pneumatic system guaranties the same level of stencil tension even after long periods of time.

**Retains all advantages
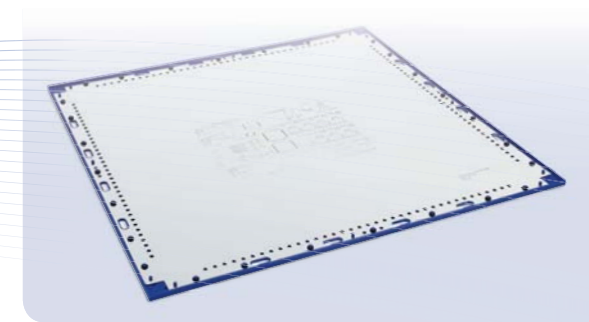of standard ZelFlex systems**

The performances and advantages of a standard ZelFlex frame are kept in the ZelFlex Protect. The new protective frame increases safety and improves the handling of stencils.
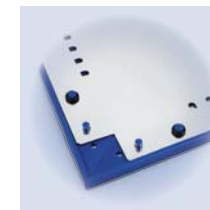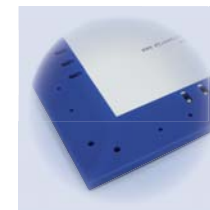
Rapid exchange of stencils

The frame design enables direct and quick clamping of stencils. Additional tools are not required. Handling with the ZelFlex protective system is easy, and it does not require any special skills.
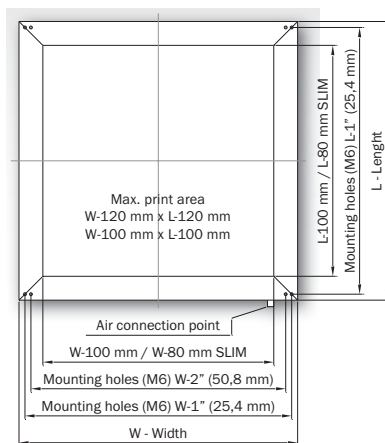
Air supply unit

An air supply unit provides filtered air and a regulated pressure, which is especially important with the thinnest stencils.

- Operator safety
- Stencil protection
- Rapid exchange of stencils
- Simplified handling, washing and archiving
- Extended lifetime of stencils
- Retains all advantages of standard ZelFlex systems

ZelFlex Frame type	Outer dimension (mm/inch)	Height at clamping (mm/inch)	Inner dimensions (mm/inch)	Printing area (mm/inch)	Foil size (mm/inch)	Air Gauge	Weight kg	Order No.
ZelFlex PROTECT 584 x 584 x 25	584 x 584 23″ x 23″	25 1	504 x 504 19,8″ x 19,8″	484 x 484 19,1″ x 19,1″	549 x 549 21,6″ x 21,6″	0	3,4	010341
ZelFlex PROTECT 584 x 584 x 25 / 736 x 736	736 x 736 29″ x 29″	40 1,5	504 x 504 19,8″ x 19,8″	484 x 484 19,1″ x 19,1″	549 x 549 21,6″ x 21,6″	0	5,4	010396
ZelFlex Z4P 406 x 508	406 x 508 16″ x 20″	33 1,3	306 x 408 12″ x 16,1″	286 x 388 11,3″ x 15,3″	368 x 470 14,5″ x 18,5″	0	4,2	010280
ZelFlex Z4P 457 x 584	457 x 584 18″ x 23″	33 1,3	357 x 484 14,1″ x 19,1″	337 x 464 13,3″ x 18,3″	419 x 546 16,5″ x 21,5″	0	4,8	010028
ZelFlex Z4P 508 x 508	508 x 508 20″ x 20″	33 1,3	408 x 408 16,1″ x 16,1″	388 x 388 15,3″ x 15,3″	470 x 470 18,5″ x 18,5″	0	4,7	010027
ZelFlex Z4P 558 x 558	558 x 558 22″ x 22″	33 1,3	458 x 458 18″ x 18″	438 x 438 17,2″ x 17,2″	520 x 520 20,5″ x 20,5″	0	5,2	010029
ZelFlex Z4P 558 x 558 / 584 x 558	584 x 558 23″ x 22″	25 1	458 x 458 18″ x 18″	438 x 438 17,2″ x 17,2″	520 x 520 20,5″ x 20,5″	0	6,1	010181
ZelFlex Z4P 558 x 558 / 736 x 736	736 x 736 29″ x 29″	40 1,5	458 x 458 18″ x 18″	438 x 438 17,2″ x 17,2″	520 x 520 20,5″ x 20,5″	0	7,1	010176
ZelFlex Z4P 559 x 559 x 25 Slim	559 x 559 22″ x 22″	25 1	479 x 479 18,9″ x 18,9″	459 x 459 18,1″ x 18,1″	524 x 524 20,6″ x 20,6″	0	3,5	010375
ZelFlex Z4P 584 x 584 x 25 Slim	584 x 584 23″ x 23″	25 1	504 x 504 19,8″ x 19,8″	484 x 484 19,1″ x 19,1″	549 x 549 21,6″ x 21,6″	No	3,6	010330
ZelFlex Z4P 584 x 584 x 25 Slim M	584 x 584 23″ x 23″	25 1	504x504 19,8″ x 19,8″	484 x 484 19,1″ x 19,1″	549 x 549 21,6″ x 21,6″	Yes	3,6	010438
ZelFlex Z4P 584 x 584 x 25 / 736 x 736 Slim	736 x 736 29″ x 29″	40 1,5	504x504 19,8″ x 19,8″	484 x 484 19,1″ x 19,1″	549 x 549 21,6″ x 21,6″	0	5,6	010395
ZelFlex Z4P 584 x 584	584 x 584 23″ x 23″	33 1,3	484 x 484 19,1″ x 19,1″	464 x 464 18,3″ x 18,3″	546 x 546 21,5″ x 21,5″	0	5,3	010276
ZelFlex Z4P 600 x 550 x 25 Slim M	600 x 550 23,6″ x 21,7″	25 1	520 x 470 20,5″ x 18,5″	500 x 450 19,7″ x 17,7″	565 x 515 22,2″ x 20,3″	Yes	3,6	010390
ZelFlex Z4P 636 x 636	636 x 636 25″ x 25″	33 1,3	536 x 536 21,1″ x 21,1″	516 x 516 20,3″ x 20,3″	598 x 598 23,5″ x 23,5″	0	5,8	010030
ZelFlex Z4P 636 x 636 / 736 x 736	736 x 736 29″ x 29″	40 1,5	536 x 536 21,1″ x 21,1″	516 x 516 20,3″ x 20,3″	598 x 598 23,5″ x 23,5″	No	7,2	010189
ZelFlex Z4P 636 x 636 / 736 x 736 M	736 x 736 29″ x 29″	40 1,5	536 x 536 21,1″ x 21,1″	516 x 516 20,3″ x 20,3″	598 x 598 23,5″ x 23,5″	Yes	7,2	010294
ZelFlex Z4P 636 x 736 / 736 x 736	736 x 736 29″ x 29″	40 1,5	536 x 636 21,1″ x 25″	516 x 616 20,3″ x 24,3″	598 x 698 23,5″ x 27,5″	0	7,7	010155
ZelFlex Z4P 650 x 550 x 25 Slim M	650 x 550 25,6″ x 21,7″	25 1	570 x 470 22,4″ x 18,5″	550 x 450 21,7″ x 17,7″	615 x 515 24,2″ x 20,3″	Yes	3,8	010356
ZelFlex Z4P 736 x 736	736 x 736 29″ x 29″	33 1,3	636 x 636 25″ x 25″	616 x 616 24,3″ x 24,3″	698 x 698 27,5″ x 27,5″	No	6,7	010031

Filling air pressure	**4 - 6 bars (60-90 psi)**
Recharge	**daily**
Max. pressure	**6 bar (87 psi)**
Ambient conditions	**room operation only**
0	**on request**
For more dimensions visit	**www.zelflex.com**

Specifications are subject to change without notice due to improvements in design.