Clip-Lok SimPak®

London, September 11th 2017

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Clip-Lok SimPak®

Testing of the QIK Plastic clip

Test cycle

Transportation simulation

1. Impact test on all 4 sides
   - Assurance level 1: 1,75 m/s (highest)
2. Rotational flat drop test on all 4 edges
   - Assurance level 1: 229mm (higest)
3. Vibration test
   - Assurance level 1: 180 min on varying frequenzy (highest)
4. Stacking test
   - Assurance level 1: 8000 kg (manualy stopped at 10110 kg.
5. Repeating of Rotational flat drop test (2)

Video of tests

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Technical Manual of the QIK Plastic clip

Status

- The design of the QIK plastic Clip is final
  - Serial production in a hard tool
- The optimal material is selected
  - Strength vs. Price
  - Sabic® PP 108MF10 (super high impact for Automotive injection moulding)
- Optimal design of clip grooves on the panels
  - Tolerances that is acheivable on CNC machinary
  - Ensures a good customer experience even at the extreemes of the tolerances.

Notes

- Tolerances and geometry
  - Favours CNC machining
- Tolerances on rebates
  - The use of a floating head helps keeping within tolerances.
- Geometries allows the use of multi-tool without floating head.
- Plastic clips requires a stiff pallet base
- QIK clips are not recommended for large boxes.
  - Where in doubt both grooves can be machined.

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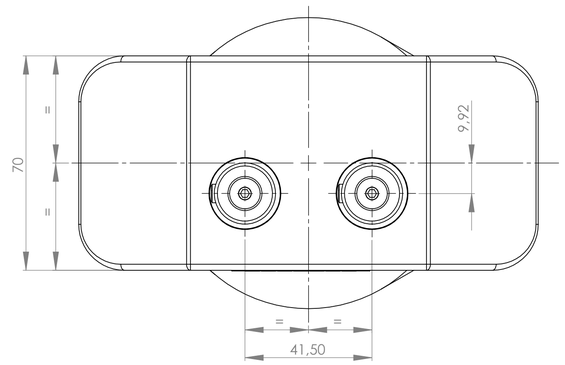
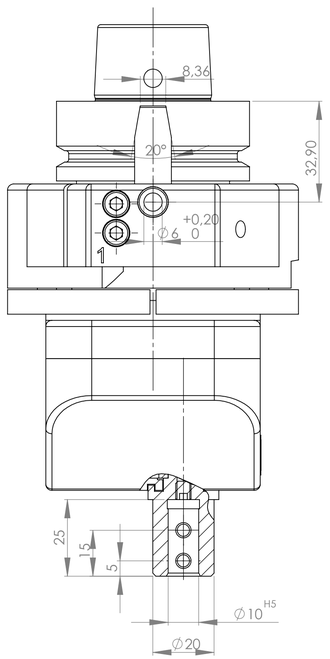
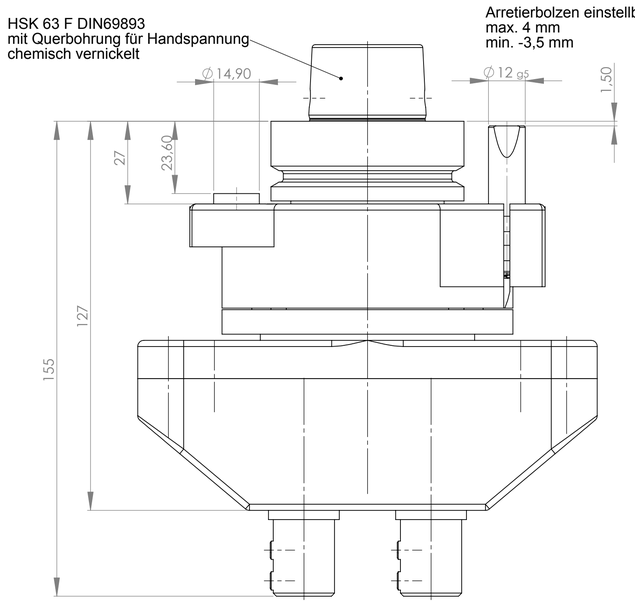
Combination of QIK Plastic and standard steel clips

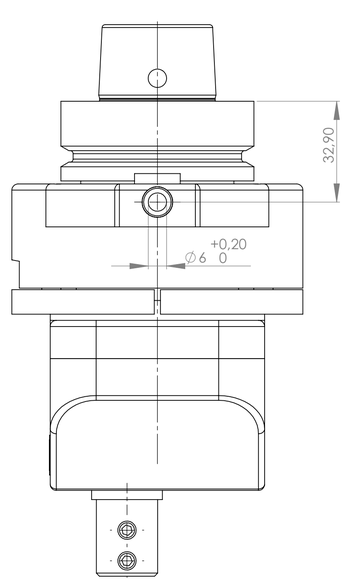
Execution plan:

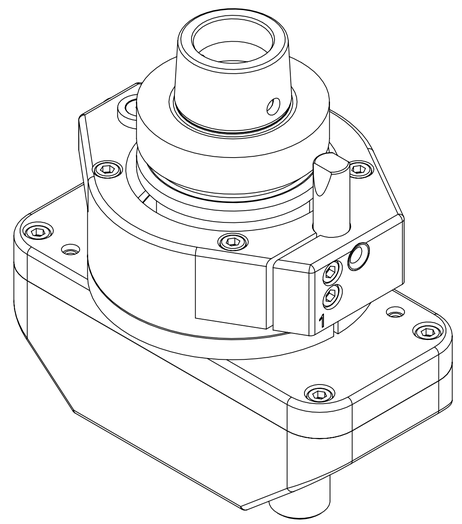
- Today: QIK clips are in stock ready for first distribution
- Today: Tool design is finalised
- 4 weeks: A complete revised Production Manual will be distributed. Drawings of the Clip Grooves can be acheived upon request.

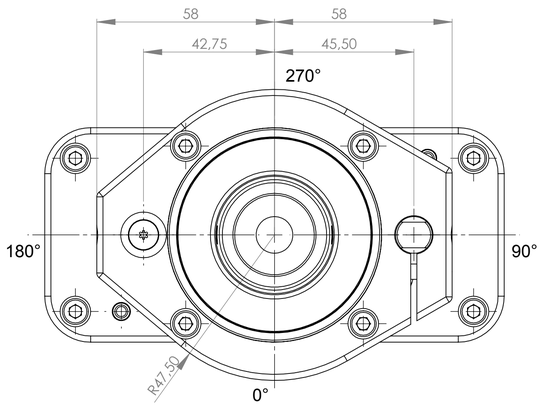












Specificazione Tecnica

Velocità (HSK) Nmax.: 10000 min-1
Velocità (mandrino) Nmax.: 10000 min-1
Rapporto 1:1
Coppia max (mandrino) 5 Nm
Temperatura max 85°
Aggregato orientabile da 360° sul asse

Caractéristiques techniques

Vitesse de rotation max. entraînement: 10000 T/min
Vitesse de rotation max. broche: 10000 T/min
Rapport 1:1
Couple (broche) 5 Nm
Température max. 85°
Rotation de 360° de l'arbre

Technische Daten

Max. Antriebsdrehzahl: 10000 min-1
Max. Ausgangsdrehzahl: 10000 min-1
Übersetzung i=1:1
Max. Drehmoment Spindelausgang Mt= 5 Nm
Zulässige Betriebstemperatur 85°
Aggregat 360° um Antriebsachse schwenkbar

Technical Data

Speed max. input: 10000 RPM
Speed max. output: 10000 RPM
Gear ratio: 1:1
Torque max. (spindle) 5 Nm
Temperature max. 85°
aggregate can be rotated 360

TEMAG	Aggregatetechnologie und Manufaktur AG Hofstetten www.atemag.de			Allgemeintoleranzen: DIN ISO 2768-mK-E		DIN 6 T1 - Proj.methode 1	Werkstoff		RZ/B	
				Tolerierung DIN 7167 Kanten gebrochen 0,3			Härtevorgaben:		Oberflächenbehandlung:	
					Datum	Name	Benennung / Zeichnungsnummer			
				Erstellt	18.6.2015	Hörig	2-Spindler Verti Line			
				Gepr.			P1-2015 24058			
				Norm.						
				Gewicht: 3,373 kg						
				Schutzvermerk nach DIN 34 beachten Weitergabe oder Vervielfältigung dieses Dokumentes nicht gestattet, Inhaltes sind ohne vorherige Genehmigung der Geschäftsführung. Alle Rechte vorbehalten.			SIVAS- Nr.		Blatt 1 von 1	
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Zust.	Änderungstext	Datum	Name	Urspr.			Ers. f.	Ers. d.	Maßstab 1:1	