

# **Powershift Units**



# **Clutch Housings**

 All most used technologies available to produce clutch housing: Flow Forming, Grob Rolling, Broaching plus Laser or EB Welding

# Currently available broached splines on Dana Graziano production:

Pitch Diameter [mm]	95,00	137,16	144,78	150,00	152,40
Module	2,5	2,54	2,54	3,00	2,54
Number of teeth theoretical	38	54	57	50	60
Pitch Diameter [mm]	159,00	165,00	172,80	175,26	174,00
Module	3,00	2,50	2,40	2,54	3,00
Number of teeth theoretical	53	66	72	69	58



## **Powershift Units**

We are able to design, develop and test complete Powershift units. Supplying the complete powershift unit gives great advantages to the customer:

- Geometries and functionality of every clutch are controlled 100% before delivery on a final hydraulic test bench; the customer receives a product which is ready to be assembled on its machines
- Only one p/n to handle instead of several components
- Less space required in the Customer's warehouse

## **EBW: Electron Beam Welding**

EBW is a simple concept to join, melt and harden a variety of metals with technical and cost advantages. It is based on beam coming out from a fix gun that provides a precisely and controlled heat source with exceptional power density, flexibility and dimensionally repeatable with low distortions. The components to be welded have to be demagnetized and then loaded on a rotating spindle in vacuum chamber with specially designed tooling; with easy modifications obtained by electronic or optic change the beam can be adjusted to reach particular characteristics of positioning, texturing and hardening.

#### Advantages of EBW:

- Material is cleaner
- Largest depth of welding (up to 15mm)
- Material is less distorted
- Cycle time reduction
- Reliability & repeatability of the process
- Extremely competitive



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