

Split Shaft Units & Hydrostatic Drives



INTERPUMP[®]



HYDRAULICS

A New Horizon in Hydraulic Power

HYDROSTATIC DRIVE & SPLIT SHAFT PTOs

Interpump Hydraulics has recently introduced a whole range of Hydrostatic Drive Splitshaft PTOs as a technical improvement to the already existing traditional models which are being successfully sold from several years in the field of special truck applications.



**400 kgm
light split-shaft PTO**



**2000/3000 kgm
horizontal type**



**2000/3000 kgm
vertical type**

As far as traditional 'non-hydrostatic' splitshaft PTOs are concerned, the main restriction is due to the fact that they use to perform only in stationary position, i.e. the truck may not move if you want to obtain the max. Transmissible power to the required application.

More precisely, when the splitshaft PTO is engaged, the front main drive shaft of the truck is turning to transfer the power directly from the engine to the splitshaft unit and the rear main drive shaft is disconnected. It means that the truck rear wheels do not turn so the truck cannot move. Typical cases in which our non-hydrostatic splitshaft units find a proper application are, for example, sewer cleaning or firefighting trucks in which the truck is generally required to keep a stationary position.

On the other hand, there are also a number of hydraulic applications for which trucks are required to move while working as the main aim of the hydrostatic drive technology is to transfer



Fire-fighting



Sewer cleaning

movement to the rear main axle even as the splitshaft unit is in full operation allowing the rear wheels to turn ie. the truck to move. Hydrostatic drive units are mainly required by municipalities; the most typical applications are represented by road-sweepers, saltspreaders, multi-purpose trucks for road maintenance. Also, airport fire-fighting trucks need to be hydrostatically operated as they need to move around a burning aircraft to extinguish the fire.

At present, in most of the above described applications, auxiliary engines are generally fitted to allow the truck transfer in operation; nevertheless, the environmental unfriendly



Salt-spreader



Road-sweeper

and very high pollution concentration as well as the heavy weight, large sizes and high noise level make them uncomfortable.



Airport fire-fighting

Our hydrostatic drive splitshaft units alleviate all these disadvantages by replacing the use of ancient auxiliary engines; the hydrostatic unit is integrated in the main splitshaft unit casting by sensibly saving space. This is particularly welcome in the case of small-sized trucks where the heavy auxiliary engines affect their overall performance.



**400 kgm
hydrostatic type**



**2000/3000 kgm
hydrostatic horizontal type**



**2000/3000 kgm
hydrostatic vertical type**



**400 kgm hydrostatic type
with pump and hydraulic motor**

The main concept of our hydrostatic drive splitshaft PTO's is represented by a 'motor pump' closed circuit independent from the main hydraulic system. In some cases, the concept 'hydrostatic' may be subject to misunderstanding as it is wrongly considered as a system applicable to increase the transmissible power; in reality we can more precisely say that the main function of a hydrostatic drive system is to consent using the max, allowable power even by moving truck.

More in detail, our splitshaft PTO is provided with proper openings to allow the direct fitment a closed-circuit variable displacement pump on the front side and of one hydraulic motor on the rear side of the splitshaft hydrostatic unit. In case of heavy trucks, our built-in hydrostatic unit allows the fitment of a second motor as well. By activating the hydrostatic drive,

the pump delivers oil to the motor(s) which, thanks to a proper gearing system inside the hydrostatic unit, let the rear main drive flange of the splitshaft unit turn and transfer power and movement to the rear wheels through the rear main drive axle. The truck transfer is controlled by means of a suitable joystick properly fitted inside the cabin and allowing the truck to go forward or backward when required.



Joystick



**2000/3000 kgm hydrostatic
horizontal type with two motors**



**2000/3000 kgm hydrostatic
horizontal type with two motors**

The selection of the proper pump and motor(s) depends on some main basic features of the truck; they are dimensioned taking into account technical requirements such as; required max speed, max road gradient and load of the truck when the hydrostatic drive is in operation. To obtain the correct information, a proper 'Questionnaire' has been raised; our Engineering Division is used to analyse the technical data for each single case and to submit the most suitable solution to that purpose.

In case of small trucks not provided with a built-in air circuit, a light splitshaft unit with hydrostatic drive is available equipped with a proper air compressor kit allowing a smooth operation by air instead of traditional mechanical cable.

At present, Interpump Hydraulics is one of the few Companies all over the world to have implemented the hydrostatic drive concept on industrial scale and we use to offer our clientele a whole packaging including, splitshaft unit, pumps and motors.



Air compressor kit





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